

Egg size in butterflies (Lepidoptera: Papilionoidea and Hesperiiidae): a summary of data

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Abstract. A table summarising the estimated egg volumes, and adult wing lengths, of 1184 species of butterflies is presented. The estimates were primarily derived from published sources. They are expected to be reasonable approximations, although some amount of measurement error cannot be discarded. They may constitute a useful preliminary data base for studies relating egg size to adult size.

INTRODUCTION

The allometry of egg, or neonate size, to adult body size has frequently prompted the interest of evolutionary biologists. This relationship is of special relevance, first, because of the many potential implications of body size (Calder, 1984). And, second, because the ratio between body size and egg size may have relatively direct effects on the number of eggs that can be produced (that is, potential fecundity), depending on the availability of resources and other anatomical, or physiological characteristics (e.g., Reiss 1989).

The allometry of egg to body size has been subject for study in several kinds of organisms (examples in Reiss 1989), but work on arthropods, including insect orders, is comparatively recent (Blueweiss et al. 1978, Berrigan 1991, Blackburn 1991, Reavey, 1992). The first attempts to determine the interspecific correlation between egg size and ecological variables, or between egg size and parent body size in butterflies were those of Nakasuji (1987) and Wiklund et al (1987), based in small sets of grass-feeding Hesperiiinae and Satyrinae, and north-European Pieridae. This not very relevant number of comparative studies is in contrast with the potentially important amount of descriptive material that has been published on butterfly life histories. While it is true that detailed data such as egg weight are scarce, generalizations based on relatively rough estimates such as egg volume probably can make general patterns arise, and thus help subsequent workers to determine the kind of data needed, and the taxa where such patterns probably occur. After a first approach to the interspecific allometry of egg to body size based on a selection of Holarctic butterfly species (García-Barros & Munguira 1997) it was evident that a wider sample, including data from the tropical and subtropical areas, could be attempted without much additional effort. Consequently, I collected data on butterfly egg descriptions to obtain approximate estimates of egg volume. These were used in a comparative study that will be presented elsewhere. Because of

the volume of the data base (which includes more than 1200 species), I considered the possibility of presenting them as a separate publication rather than as a summary of, e.g., genus, tribe, or family means. This has disadvantages (essentially, the amount of paper required), but also some advantages, namely the accessibility of the data to other entomologists. This is the main purpose of the present work. While the data are far from complete, and probably not free of error, they will be available for further study in a compiled printed form, and may help others to fill the gaps or even serve as a basis for a more comprehensive, world-based data base on butterfly sizes. While this work might be used to compile information on egg morphology or related details, it is important to note that much descriptive material that did not contain information on egg size is not quoted here.

METHODS

The data collected included an estimate of egg size, and another of adult size, for each butterfly species. The coverage of the sample was determined by the accessibility of the data (I do not intend it to be exhaustive). Data collection was terminated when the number of species covered was judged to suffice for a preliminary comparative approach. Although some unpublished material was included, the largest part of the estimates derives from the literature alone.

Egg volume. This was calculated using the formula for a regular ellipsoid using the egg maximum diameter (ed) and length or height (el): Egg volume = $1/6(\pi)(ed^2)(el)$. An empirical approach demonstrated that egg volumes calculated this way may constitute reasonable estimate for eggs with a rounded profile. The fit was not so good for other egg shapes, and was specially rough for very 'square' profiled eggs. Because the descriptions available in the literature are frequently based in very small sample sizes, a potentially important measurement error must be presumed anyway. When two or more descriptions (that included egg width and length) were available, the average was calculated. Eggs described as spheroid, spheric, or nearly spheric were considered to be of spheric shape unless this was contradicted by existing figures, or by information from the most closely related species. When scale figures were available, these were used to estimate the egg dimensions. Estimated egg volumes in mm^3 are given in the table under the heading EV.

Adult wing length. The length of the forewing, measured from the base to the apex, was used to estimate adult size. Actually, the average between the male and female sexes was estimated. Any available source was employed but, since collection material was available for a small part of the species, the live-sized specimens photographed in the plates by D'Abbrera (1977–1995) were used by default. When measurements from the adults used in the rearings, or from the same country or geographic area as the egg descriptions were available, these were incorporated. Estimated wing lengths in mm are given in the table under the heading WL.

RESULTS

The data collected cover 1184 species. The results are presented in a single table with five columns. The first of these is the species number (1 to 1184).

The second column corresponds to the species names (with a few exceptions, followed by the author and date of description). I am afraid that the taxonomy had to be eclectic. The specific rank has been maintained for some taxa that should probably be treated as subspecies (in case of doubt, this at least ensures identification). The third and fourth columns give the estimated egg volumes (EV) and wing lengths (WL). The last column (Sources) gives numbered references; the sources are given after the table (see 'Sources').

Some further details on the taxonomic arrangement are given below (see 'Taxonomic arrangement'). Numbers in small case (¹ to ²³) refer to notes on the taxonomy, sources for taxonomic arrangement, or other pertinent detail, given at the end of the text. Finally, I have added one Appendix that summarises the taxonomic (or, when phylogenetic approaches exist, cladistic) relations between the species included. This is in parenthetical notation, and the numbers correspond to those in the species list. This arrangement is used in the comparative interspecific study of the data, that will be presented separately. It may be of use to assess the effect of taxonomic relationships in association with this data set, and it (or parts of it) can be used as input for computer programs as a means to reconstruct the tree structure adopted.

#	Species	EV	WL	Sources
1	<i>Coeliades forestan</i> (Stoll, 1782)	0.17	28.0	122
2	<i>C. keithloa</i> (Wallengren, 1857)	0.39	27.5	122
3	<i>Allora dolleschallii</i> (Felder, 1860)	0.42	22.5	219
4	<i>Acleros mackenii</i> (Trimen, 1868)	0.31	15.0	122
5	<i>Kedestes barberae</i> (Trimen, 1873)	0.71	15.0	122
6	<i>K. macomo</i> (Trimen, 1862)	0.57	14.0	122
7	<i>K. niveostriga</i> (Trimen, 1864)	0.67	12.5	122
8	<i>Cymaenes tripunctus</i> (Herrich-Schäffer, 1865)	0.25	13.5	45
9	<i>Lerema cornelius</i> (Latreille, [1824])	0.95	18.0	46
10	<i>Aeromachus inachus</i> (Ménétriés, 1859) ¹³	0.11	12.5	182
11	<i>Metisella malgacha</i> (Boisduval, 1833)	0.20	14.0	122
12	<i>M. metis</i> (Linnaeus, 1764)	0.15	13.3	122
13	<i>Thoressa varia</i> (Murray, 1864) ¹³	0.45	15.5	182
14	<i>Tsitana uitehaga</i> Evans, 1937	0.51	15.5	122
15	<i>Calpodetes ethlius</i> (Stoll, [1782])	0.65	25.0	129
16	<i>Nyctelius nyctelius</i> (Latreille, [1824])	0.82	18.0	45;260
17	<i>Panoquina nero</i> (Fabricius, 1798)	1.87	22.0	129
18	<i>P. sylvicola</i> (Herrich-Schäffer, 1865)	0.15	18.0	41;45
19	<i>Parosmodes morantii</i> (Trimen, 1873)	0.82	14.5	122
20	<i>Borbo cinnara</i> (Wallace, 1866) ¹³	0.06	14.0	182
21	<i>B. fallax</i> (Gaede, 1916)	0.38	16.0	122
22	<i>B. fatuellus</i> (Hopffer, 1855)	0.31	18.5	122
23	<i>B. impar</i> (Waterhouse, 1932)	0.31	17.0	297
24	<i>B. lugens</i> (Hopffer, 1855)	0.33	15.0	122
25	<i>Gegenes niso</i> (Linnaeus, 1764)	0.31	14.5	122
26	<i>Parnara guttata</i> (Bremer & Grey, 1853) ¹³	0.17	18.5	158;182
27	<i>P. monasi</i> (Trimen & Bowker, 1889)	0.21	13.0	122
28	<i>P. naso</i> (Fabricius, 1789) ¹³	0.13	14.5	182
29	<i>Pelopidas agna</i> (Moore, [1866]) ¹³	0.30	13.5	182

30	<i>P. jansonis</i> (Butler, 1868) ¹³	0.35	18.0	182
31	<i>P. mathias</i> (Fabricius, 1798) ¹³	0.32	17.5	182
32	<i>P. thrax</i> (Hübner, [1821])	1.06	22.0	122
33	<i>Polytremis pellucida</i> (Murray, 1874) ¹³	0.50	18.5	182
34	<i>Isoteinon lamprospilus</i> Felder & Felder, 1862 ¹³	0.36	18.0	182
35	<i>Amblyscirtes aenus</i> Edwards, 1878	0.28	12.3	83
36	<i>Lerodea eufala</i> (Edwards, 1869)	0.30	13.0	20
37	<i>Hidari irava</i> (Moore, [1858])	1.56	27.8	295
38	<i>Lotongus calathus</i> (Hewitson, 1876)	3.66	24.5	295
39	<i>Unkana ambasa</i> (Moore, [1858])	3.32	31.3	295
40	<i>Artitropa erinnys</i> (Trimen, 1862)	2.51	24.0	122
41	<i>Moltena fiara</i> (Butler, 1870)	3.77	24.0	122
42	<i>Zophopetes dysmephila</i> (Trimen, 1868)	1.18	21.0	122
43	<i>Ocybadistes knightorum</i> Lambkin & Donaldson, 1994	0.15	10.7	280
44	<i>Potanthus flavum</i> (Murray, 1875) ¹³	0.30	15.0	182
45	<i>Choranthus radians</i> (Lucas, 1857)	0.15	14.5	41
46	<i>Hesperia comma</i> (Linnaeus, 1758)	0.43	15.3	53;156;233
47	<i>H. nabokovi</i> (Bell & Comstock, 1948)	1.06	19.0	209
48	<i>Ochlodes ochracea</i> (Bremer, 1861) ¹³	0.20	14.0	182
49	<i>O. venatus</i> (Bremer & Grey, 1862) ¹³	0.25	15.1	53;182;233
50	<i>Poanes hobomok</i> (Harris, 1862)	0.34	15.0	35
51	<i>Polites baracoa</i> (Lucas, 1857)	0.13	11.5	41
52	<i>P. mystic</i> (Edwards, 1863)	0.27	15.5	35
53	<i>P. origenes</i> (Fabricius, 1793)	0.34	14.5	35
54	<i>P. sabuleti</i> (Boisduval, 1852)	0.15	11.8	48
55	<i>Pompeius verna</i> (Edwards, 1862)	0.24	13.3	40
56	<i>Wallengrenia egeremet</i> (Scudder, 1864)	0.18	14.5	35
57	<i>W. misera</i> (Schaus, 1902)	0.26	14.0	41
58	<i>Ancyloxypha numitor</i> (Fabricius, 1793)	0.14	11.5	129
59	<i>Oarisma poweshiek</i> (Parker, 1870)	0.15	12.6	91
60	<i>Thymelicus acteon</i> (Rottemburg, 1775)	0.21	12.5	233
61	<i>T. leoninus</i> (Butler, 1868) ¹³	0.12	15.5	182
62	<i>T. lineola</i> (Ochsenheimer, 1808)	0.24	13.0	60
63	<i>T. sylvaticus</i> (Bremer, 1861) ¹³	0.13	13.5	182
64	<i>T. sylvestris</i> (Poda, 1761)	0.38	13.6	60;233
65	<i>Carterocephalus palaemon</i> (Pallas, 1771) ¹³	0.16	13.8	53;182;233
66	<i>C. sylvicola</i> (Meigen, 1728) ¹³	0.11	12.5	182
67	<i>Leptalina unicolor</i> (Bremer & Grey, [1852]) ¹³	0.22	15.5	182
68	<i>Anisynta tillyardi</i> Waterhouse & Lyell, 1912	0.15	14.0	108
69	<i>Hesperilla crypsigramma</i> (Meyrick & Lower, 1902)	0.69	13.7	121
70	<i>H. furva</i> Sands & Kerr, 1973	0.69	14.4	121
71	<i>H. malindeva</i> Lower, 1911	0.89	18.0	121
72	<i>H. sarnia</i> Atkins, 1978	0.68	15.9	121;149
73	<i>H. sexguttata</i> Herrich-Schäffer, 1869	0.55	14.7	121
74	<i>Mesodina cyanophracta</i> Lower, 1911	2.10	17.7	292
75	<i>Neohesperilla crocea</i> (Miskin, 1889)	0.20	14.9	251
76	<i>N. senta</i> (Miskin, 1891)	0.35	13.6	251
77	<i>N. xanthomera</i> (Meyrick & Lower, 1902)	0.28	13.3	251
78	<i>N. xiphiphora</i> (Lower, 1911)	0.40	10.5	251
79	<i>Pasma tasmanica</i> (Miskin, 1889)	0.39	19.2	186
80	<i>Toxidia riemannii</i> (Semper, 1879)	0.27	17.2	186
81	<i>Trapezites genevieveae</i> (Atkins, 1997)	1.27	18.0	293
82	<i>T. iacchoides</i> Waterhouse, 1903	1.15	18.6	178
83	<i>T. maheta</i> (Hewitson, 1877)	0.66	14.9	161
84	<i>T. phyalioides</i> Waterhouse, 1903	1.60	15.9	178
85	<i>T. praxedes</i> (Plötz, 1884)	0.59	16.9	161
86	<i>T. heteromacula</i> Meyrick & Lower, 1902	0.52	13.4	114

87	<i>T. sciron</i> Waterhouse & Lyell, 1914	0.37	15.0	231
88	<i>T. waterhousei</i> Mayo & Atkins, 1992	0.15	13.8	300
89	<i>T. taori</i> Atkins, 1997	0.81	21.0	293
90	<i>Antipodia atralba</i> (Tepper, 1882)	1.47	17.0	152
91	<i>A. chaostola</i> (Meyrick, 1888)	0.83	16.3	152
92	<i>Croilana arenaria</i> (Edwards, 1879)	0.45	12.1	180
93	<i>C. croites</i> (Hewitson, 1874)	0.88	12.5	188
94	<i>Herimosa albovenata</i> (Waterhouse, 1940)	0.56	13.5	244
95	<i>Procidosa polysema</i> (Lower, 1908)	0.75	14.0	97
96	<i>Abantis paradisea</i> (Butler, 1870)	0.34	21.5	122
97	<i>Celaenorrhinus mokeezi</i> (Wallengren, 1857)	0.28	20.0	122
98	<i>Eagris noltoana</i> (Wallengren, 1857)	0.34	14.3	122
99	<i>Eretis djaelaelae</i> (Wallengren, 1857)	0.17	14.0	122
100	<i>Netrobalane canopus</i> (Trimen, 1864)	0.26	18.5	122
101	<i>Anastrus sempiternus</i> (Butler & Druce, 1872)	0.27	21.0	125
102	<i>Erynnis afranius</i> (Lintner, 1878)	0.25	16.0	29
103	<i>E. tages</i> (Linnaeus, 1758)	0.11	13.5	53;60;233
104	<i>E. tristis</i> (Boisduval, 1852)	0.30	18.9	28
105	<i>E. zarucco</i> Lucas, 1857	0.15	20.0	15
106	<i>Alenia sandaster</i> (Trimen, 1868)	0.09	11.5	122
107	<i>Carcharodus alcaeae</i> (Esper, 1790)	0.20	14.0	304
108	<i>Gomalia elma</i> (Trimen, 1862)	0.25	13.5	191
109	<i>Heliopetes ericetorum</i> (Boisduval, 1852)	0.21	17.5	12;24
110	<i>Hesperopsis libya</i> (Scudder, 1878)	0.51	13.0	29
111	<i>Pyrgus alveus</i> (Hübner, 1803)	0.33	13.5	233
112	<i>P. communis</i> (Grote, 1872)	0.05	13.5	49;24
113	<i>P. malvae</i> (Linnaeus, 1758)	0.11	11.5	53;60;233
114	<i>P. oileus</i> (Linnaeus, 1767)	0.04	15.0	43
115	<i>Spialia asterodia</i> (Trimen, 1864)	0.09	11.5	122
116	<i>S. depauperata</i> (Strand, 1911)	0.21	12.5	122
117	<i>S. dromus</i> (Plötz, 1864)	0.23	11.5	122
118	<i>S. mafa</i> (Trimen, 1870)	0.13	11.5	122
119	<i>S. nanus</i> (Trimen & Bowker, 1889)	0.13	11.0	122
120	<i>S. satespes</i> (Trimen, 1864)	0.16	12.0	122
121	<i>S. spio</i> (Linnaeus, 1767)	0.21	12.5	122
122	<i>Syrichthus proto</i> (Oschenheimer, 1808)	0.39	14.5	102
123	<i>Sarangesa motozi</i> (Wallengren, 1857)	0.20	17.0	122
124	<i>S. phidyle</i> (Walker, 1870)	0.17	16.0	122
125	<i>Tagiades flesus</i> (Fabricius, 1781)	0.25	23.5	122
126	<i>Aguna albistria</i> (Plötz, 1881)	0.30	16.0	135
127	<i>Cabares potrillo</i> (Lucas, 1857)	0.26	18.0	43
128	<i>Codatractus aminias</i> (Hewitson, 1867)	0.30	23.5	38
129	<i>Polygonus leo</i> (Gmelin, [1790])	0.34	23.0	3;47
130	<i>Typhedanus undulatus</i> (Hewitson, 1867)	0.27	21.0	26
131	<i>Urbanus dorantes</i> (Stoll, [1790])	0.28	22.0	47;66;260
132	<i>U. simplicius</i> (Stoll, [1790])	0.34	20.0	38
133	<i>Archon apollinus</i> (Herbst, 1798)	0.26	28.3	239
134	<i>Hypermnestra helios</i> (Nickerl, 1846)	0.24	26.9	239
135	<i>Parnassius szechenyii</i> Frivaldszky, 1886	0.45	33.0	239
136	<i>P. acestis</i> Grun-Grshimailo, 1891	0.65	28.5	239
137	<i>P. delphius</i> (Eversmann, 1843)	0.47	31.0	239
138	<i>P. imperator</i> Oberthür, 1883	0.68	40.1	239
139	<i>P. autocrator</i> Avinoff, 1913	0.67	36.0	239
140	<i>P. loxias</i> Püngeler, 1901	0.64	33.5	239
141	<i>P. maximinus</i> Staudinger, 1891	0.71	36.0	239
142	<i>P. acco</i> Gray, 1853	0.59	27.9	239
143	<i>P. simo</i> Gray, 1853	0.72	24.5	239

144	<i>P. simonius</i> Staudinger, 1889	0.80	25.5	239
145	<i>P. hardwickii</i> Gray, 1831	0.43	29.1	239
146	<i>P. ariadne</i> (Lederer, 1853)	0.97	34.5	239
147	<i>P. glacialis</i> Butler, 1866	1.06	37.3	239
148	<i>P. mnemosyne</i> (Linnaeus, 1758)	0.97	30.8	239;249
149	<i>P. nordmanni</i> (Nordmann, 1851)	1.30	33.0	239
150	<i>P. stubbendorffi</i> Ménétries, 1849	0.66	32.5	239
151	<i>P. actius</i> (Eversmann, 1843)	1.01	31.0	239
152	<i>P. apollo</i> (Linnaeus, 1758)	1.12	39.5	239
153	<i>P. apollonius</i> (Eversmann, 1847)	2.54	39.5	239
154	<i>P. epaphus</i> Oberthür, 1879	0.76	27.0	239
155	<i>P. honrathi</i> Staudinger, 1882	1.85	39.0	239
156	<i>P. jacquemontii</i> Boisduval, 1836	0.87	33.5	239
157	<i>P. phoebus</i> (Fabricius, 1793)	0.89	36.0	239
158	<i>P. tianschanicus</i> Oberthür, 1879	0.97	39.5	239
159	<i>Sericinus montela</i> Gray, 1853	0.20	37.0	295
160	<i>Allancastria cerisyi</i> (Godart, 1822)	0.17	28.0	239
161	<i>Zerynthia polyxena</i> (D. & Schiff., 1775)	0.20	28.3	60
162	<i>Z. rumina</i> (Linnaeus, 1758)	0.24	25.3	304
163	<i>Bhutanitis linderallii</i> Atkinson, 1873	1.05	59.0	295
164	<i>Luehdorfia japonica</i> Leech, 1889	0.53	31.0	295
165	<i>L. longicaudata</i> Lee ²	0.60	35.0	295
166	<i>L. puziloi</i> (Erschoff, 1872)	0.41	29.5	295
167	<i>Eurytides celadon</i> (Lucas, 1852)	0.42	38.2	43
168	<i>E. epidaus</i> (Doubleday, 1846)	0.52	43.0	66
169	<i>E. belesis</i> (Bates, 1864)	0.52	46.0	73
170	<i>Iphiclidea feisthameli</i> (Duponchel, 1832)	1.59	41.2	234;304
171	<i>I. podalirius</i> (Linnaeus, 1758)	1.58	39.5	60;234
172	<i>Graphium euryptylus</i> (Linnaeus, 1758)	0.52	38.0	37
173	<i>G. sarpedon</i> (Linnaeus, 1758)	0.76	45.5	39
174	<i>G. aristeus</i> (Cramer, [1775])	0.29	39.6	200
175	<i>G. antipathes</i> (Cramer, [1775])	0.80	55.0	37
176	<i>G. angolanus</i> (Goeze, 1779)	0.38	41.1	259
177	<i>G. antheus</i> (Cramer, [1779])	0.50	48.0	259
178	<i>G. leonidas</i> (Fabricius, 1793)	0.64	47.5	259
179	<i>G. morania</i> (Angas, 1849)	0.50	37.2	259
180	<i>G. policenes</i> (Cramer, [1775])	0.50	40.0	259
181	<i>Pharmacophagus antenor</i> (Drury, 1773)	4.61	68.5	290
182	<i>Battus polydamas</i> (Linnaeus, 1758) ¹³	0.66	48.0	43;66;94
183	<i>Troides aeacus</i> (Felder & Felder, 1860)	6.12	81.0	295
184	<i>T. amphrysus</i> (Cramer, 1782)	7.64	77.0	295
185	<i>T. andromache</i> (Staudinger, 1892)	6.85	70.0	295
186	<i>T. helena</i> (Linnaeus, 1758)	2.18	81.0	295
187	<i>T. hipolitus</i> (Cramer, [1775])	5.40	87.5	295
188	<i>T. miranda</i> (Butler, 1869)	6.69	91.0	295
189	<i>T. brookiana</i> (Wallace, 1855)	2.54	83.5	295
190	<i>T. alexandrae</i> (Rothschild, 1907)	20.5	100.0	87;295
191	<i>T. priamus</i> (Linnaeus, 1758)	9.36	91.5	295
192	<i>Parides arcas</i> (Cramer, [1777]) ¹³	0.68	39.0	94;101
193	<i>P. childrenae</i> (Gray, 1832) ¹³	0.71	48.5	94
194	<i>P. iphidamas</i> (Fabricius, 1793)	0.55	39.5	119
195	<i>P. photinus</i> (Doubleday, 1844)	6.79	47.5	75
196	<i>P. alcinous</i> (Klug, 1836)	1.55	54.0	239
197	<i>P. horishana</i> (Matsumura, 1910)	9.39	70.0	295
198	<i>P. polyeuctes</i> (Doubleday, 1842)	3.07	57.0	295
199	<i>P. semperi</i> (Felder & Felder, 1861)	5.93	73.5	295
200	<i>P. varuna</i> (White, 1868)	2.41	55.0	295

201	<i>Pachliopta aristolochiae</i> (Fabricius, 1775)	1.32	48.0	295
202	<i>Cressida cressida</i> (Fabricius, 1775)	1.10	50.5	295
203	<i>Papilio homerus</i> Fabricius, 1793	3.02	75.9	210;222;238
204	<i>P. hellanichus</i> Hewitson, 1868	1.24	45.0	21;81
205	<i>P. thoas</i> Linnaeus, 1771	0.83	48.5	22
206	<i>P. anchisiades</i> Esper, 1788	0.82	52.5	94
207	<i>P. agestor</i> (Gray, 1832)	1.83	56.5	295
208	<i>P. epycides</i> (Hewitson, 1862)	0.46	33.0	295
209	<i>P. laglaizei</i> Deputset, 1877	0.38	51.0	109
210	<i>P. clytia</i> Linnaeus, 1758	0.73	52.0	295
211	<i>P. maraho</i> (Shiraki & Sonan, 1934)	1.42	64.5	295
212	<i>P. demolion</i> Cramer, 1779	0.99	51.0	295
213	<i>P. gigon</i> Felder & Felder, 1864	0.91	70.0	295
214	<i>P. euchenor</i> Guérin-Méneville, 1829	2.53	66.5	295
215	<i>P. nireus</i> Linnaeus, 1758	0.66	50.5	259
216	<i>P. alexanor</i> Esper, 1799	0.39	42.0	235
217	<i>P. indra</i> Reakirt, 1866	0.68	38.5	71;82;103
218	<i>P. hospiton</i> Genée, 1839	0.50	40.0	197;235
219	<i>P. machaon</i> Linnaeus, 1758	0.68	40.0	60;197;304
220	<i>P. hippocrates</i> Felder & Felder, 1864	0.73	53.0	235
221	<i>P. echerioides</i> Trimen, 1868	0.75	42.8	259
222	<i>P. ophidicephalus</i> Oberthür, 1878	2.14	61.0	259
223	<i>P. dardanus</i> Brown, 1776	1.59	46.9	259
224	<i>P. demodocus</i> Esper, 1798	0.96	46.0	259
225	<i>P. demoleus</i> (L.)	0.60	41.0	211
226	<i>P. euphranor</i> Trimen, 1868	0.97	54.3	259
227	<i>P. paris</i> Linnaeus, 1758	1.77	48.5	37
228	<i>Dismorphia amphiona</i> (Cramer, [1777])	0.28	33.0	132
229	<i>D. foedora</i> (Lucas) ¹	0.38	29.0	98
230	<i>D. spio</i> (Godart, 1819)	0.51	33.0	260
231	<i>Leptidea sinapis</i> (Linnaeus, 1758)	0.15	20.2	53;60;233
232	<i>Colotis antevippe</i> (Boisduval, 1836)	0.18	21.3	259
233	<i>C. auxo</i> (Lucas, 1852)	0.25	21.1	259
234	<i>C. danae</i> (Fabricius, 1775)	0.14	23.7	259
235	<i>C. evagore</i> (Klug, 1829)	0.08	18.3	259
236	<i>C. evippe</i> (Linnaeus, 1758)	0.11	20.5	259
237	<i>C. erone</i> (Angas, 1849)	0.17	26.0	80
238	<i>C. ione</i> (Godart, 1819)	0.08	25.5	80
239	<i>C. vesta</i> (Reiche, 1849)	0.08	21.5	80
240	<i>C. eris</i> (Klug, 1829)	0.28	23.6	259
241	<i>Eronia cleodora</i> (Hübner, 1823)	0.28	29.2	259
242	<i>Hebomia glaucippe</i> (Linnaeus, 1758)	1.04	50.0	295
243	<i>Nepheronia argia</i> (Fabricius, 1775)	1.52	39.4	259
244	<i>N. buquettii</i> (Boisduval, 1836)	0.67	29.4	259
245	<i>Pareronia boebera</i> (Eschscholtz, 1821)	1.43	36.0	139
246	<i>Anthocharis cardamines</i> (Linnaeus, 1758)	0.16	21.1	233;53;60;233
247	<i>A. cethura</i> Felder & Felder, 1865	0.11	17.0	28
248	<i>Euchloe ausonia</i> Hübner, 1803	0.24	23.0	53
249	<i>E. belemia</i> (Esper, [1800])	0.12	22.9	175;281
250	<i>E. crameri</i> Butler, 1869	0.13	23.3	175;281
251	<i>E. ogilvia</i> Back, 1990	0.11	20.0	201
252	<i>E. tagis</i> (Hübner, [1804])	0.06	19.0	175;281
253	<i>E. hyantis</i> (Edwards, 1871)	0.11	21.0	28
254	<i>Pinacopteryx eriphia</i> (Godart, 1819)	0.09	29.3	259
255	<i>Aporia crataegi</i> (Linnaeus, 1758)	0.11	32.3	53;60;204
256	<i>Appias epaphia</i> (Cramer, [1779])	0.13	28.7	259
257	<i>Belenois aurota</i> (Fabricius, 1793)	0.12	25.8	259

258	<i>B. creona</i> (Cramer, [1775])	0.12	27.0	259
259	<i>B. gidica</i> (Godart, 1819)	0.08	29.0	259
260	<i>B. thysa</i> (Hopffer, 1855)	0.30	33.4	259
261	<i>B. zochalia</i> (Boisduval, 1836)	0.13	28.7	259
262	<i>Cepora nerissa</i> (Fabricius, 1775)	0.08	29.5	295
263	<i>Delias descombesi</i> (Boisduval, 1836)	0.21	41.5	295
264	<i>Dixeia charina</i> (Boisduval, 1836)	0.08	22.2	259
265	<i>D. pigea</i> (Boisduval, 1836)	0.16	24.9	259
266	<i>Ixias pyrene</i> (Linnaeus, 1764)	0.19	33.5	295
267	<i>Leptophobia caesia</i> (Lucas, 1852)	0.41	27.0	96
268	<i>Mylothris agathina</i> (Cramer, [1779])	0.26	31.5	259
269	<i>M. rueppellii</i> (Koch, 1865)	0.28	31.5	259
270	<i>M. trimenia</i> Butler, 1869	0.24	27.8	259
271	<i>Perrhybris lypera</i> (Kollar, 1850) ¹³	1.00	35.3	94
272	<i>Phulia nymphula</i> (Staudinger? Blanch.?) ¹	0.05	17.0	184
273	<i>P. rosea</i> ¹	0.07	15.0	184
274	<i>Pieris brassicae</i> (Linnaeus, 1758)	0.18	29.8	53;60;233
275	<i>P. rapae</i> (Linnaeus, 1758)	0.13	24.5	53;60;233
276	<i>P. virginiensis</i> Edwards, 1870	0.10	24.4	184;206
277	<i>P. napi</i> (Linnaeus, 1758)	0.14	22.5	53;60;233
278	<i>P. brionniae</i> (Hübner, 1805)	0.31	22.5	172;208
279	<i>P. callidice</i> Hübner, 1800	0.05	23.7	184
280	<i>P. occidentalis</i> (Reakirt) ²	0.05	23.7	184
281	<i>P. protodice</i> (Boisduval & Le Conte, 1833)	0.05	23.4	184
282	<i>Pontia daplidice</i> (Linnaeus, 1758)	0.14	22.5	53;60
283	<i>P. helice</i> (Linnaeus, 1764)	0.12	23.0	259
284	<i>P. chlorodice</i> (Hübner, 1808)	0.13	22.0	13
285	<i>Prioneris thestylis</i> (Doubleday, 1842)	0.29	46.0	295
286	<i>Tatochila mercedis</i> (Eschscholtz, 1821)	0.04	27.0	184
287	<i>T. microdice</i> ¹	0.10	21.0	184
288	<i>T. sterodice</i> ¹	0.07	28.0	184
289	<i>T. vanvolxemii</i> (Capr.) ¹	0.14	30.0	184
290	<i>Leptosia alcesta</i> (Stoll, 1870)	0.13	22.0	80
291	<i>Anteos clorinde</i> Godart, 1823	0.16	44.0	43
292	<i>Catopsilia florella</i> (Fabricius, 1775)	0.21	35.0	259
293	<i>C. pomona</i> (Fabricius, 1775)	0.13	34.5	295
294	<i>C. pyranthe</i> (Linnaeus, 1758)	0.17	36.0	295
295	<i>Colias alfacariensis</i> Ribbe, 1905	0.13	24.5	53;62;181
296	<i>C. croceus</i> (Geoffroy, 1785)	0.13	25.5	53;207;233
297	<i>C. electo</i> (Linnaeus, 1763)	0.09	24.3	259
298	<i>C. hyale</i> (Linnaeus, 1758)	0.10	24.0	53;60;62
299	<i>C. myrmidone</i> (Esper, 1781)	0.10	23.0	207
300	<i>C. palaeno</i> (Linnaeus, 1761)	0.13	25.0	53;212
301	<i>Eurema brigitta</i> (Stoll, [1780])	0.06	20.4	259
302	<i>E. jucunda</i> ¹	0.03	24.0	66
303	<i>E. lisa</i> (Boisduval & Le Conte, 1829)	0.03	17.0	43
304	<i>E. albula</i> (Cramer, [1775])	0.41	18.5	31
305	<i>E. desjardinsii</i> (Boisduval, 1833)	0.10	20.0	76
306	<i>E. hecabe</i> (Linnaeus, 1758)	0.18	22.5	76
307	<i>Gonepteryx cleobule</i> (Hübner, 1825)	0.06	37.0	215
308	<i>G. rhamni</i> (Linnaeus, 1758)	0.21	28.1	53;60;205;233
309	<i>Nathalis iole</i> Boisduval, 1836	0.02	14.3	43
310	<i>Phoebis cipris</i> (Fabricius) ²	0.08	32.5	20
311	<i>Gandaca harina</i> (Horsfield, [1829])	0.14	24.0	139
312	<i>Abisara neophron</i> (Hewitson, 1860)	0.06	23.8	294
313	<i>Hamearis lucina</i> (Linnaeus, 1758)	0.22	15.2	53;60;233
314	<i>Euselasia hieronymi</i> (Salvin & Godman, 1868)	0.05	15.0	136

315	<i>E. hygenius</i> (Stoll, 1790)	0.06	13.5	279
316	<i>Napaea beltiana</i> Bates, 1869	0.09	17.0	227
317	<i>N. orpheus</i> (Hewitson, 1847)	0.08	14.3	58
318	<i>Mesosemia acuta</i> Hewitson, 1873	0.07	20.0	58
319	<i>Calephelis borealis</i> (Grote & Robinson, 1866)	0.05	13.5	33
320	<i>C. nilus</i> (Felder, 1861)	0.05	10.5	136
321	<i>C. rawsoni</i> McAlpine, 1939	0.06	12.5	136
322	<i>C. perditalis</i> (Barnes & McDunnough, 1918)	0.06	13.3	111
323	<i>Caria imo</i> (Godman & Salvin, 1866)	0.05	11.0	136
324	<i>Lasaia sula</i> Staudinger, 1888	0.06	16.0	136
325	<i>Metacharis ptolomaeus</i> (Fabricius, 1783)	0.03	17.5	194;216
326	<i>Panara thisbe</i> (Fabricius, 1781)	0.03	19.0	58
327	<i>Apodemia mormo</i> (Felder & Felder, 1859)	0.27	15.5	24;136
328	<i>A. nais</i> Edwards, 1874 ^{1,2}	0.22	15.5	136
329	<i>A. palmeri</i> (Edwards, 1871)	0.22	11.5	28;136
330	<i>A. walkeri</i> (Godman & Salvin, 1886) ²	0.10	13.6	136
331	<i>Emesis emesia</i> (Hewitson, 1867)	0.05	13.0	136
332	<i>E. mandana</i> (Cramer, [1780])	0.15	22.5	136
333	<i>E. tegula</i> Godman & Salvin, 1886	0.21	19.5	136
334	<i>E. tenedia</i> Felder & Felder, 1861	0.11	19.0	136
335	<i>E. zela</i> Butler, 1870 ²	1.06	14.1	57
336	<i>Audre susanae</i> Orfila, 1935	0.18	15.5	56
337	<i>A. colchis</i> (Felder, 1865)	0.10	22.5	58
338	<i>Lemonias caliginea</i> (Clench, 1964)	1.00	17.9	74
339	<i>L. epone</i> (Godart, 1825)	0.16	18.5	58
340	<i>Stichelia sagaris</i> (Cramer, [1777])	0.13	12.0	194
341	<i>Xenandra agria</i> (Hewitson, 1847)	0.07	19.5	58
342	<i>Charis calicen?</i> (Hewitson, 1866)	0.08	13.0	58
343	<i>Synargis phillone</i> (Godart, [1824])	0.12	21.5	58
344	<i>Baliochila aslanga</i> (Trimen, 1873)	0.03	16.0	85
345	<i>Durbania amakosa</i> Trimen, 1862	0.15	14.9	85
346	<i>Durbaniopsis saga</i> Trimen, 1883	0.17	16.8	85
347	<i>Alaena amazonula</i> Boisduval, 1847	0.15	13.5	85
348	<i>A. margaritacea</i> Eltringam, 1929	0.17	12.8	85
349	<i>Pentila tropicalis</i> (Boisduval, 1847)	0.08	17.7	85
350	<i>Lachnocnema bibulus</i> (Fabricius, 1793)	0.03	13.5	85
351	<i>L. durbani</i> Trimen, 1887	0.04	12.8	85
352	<i>Thestor basutus</i> (Wallengren, 1857)	0.13	18.0	85
353	<i>T. brachycerus</i> (Trimen, 1883)	0.07	14.1	85
354	<i>T. dicksoni</i> Riley, 1954	0.07	21.1	85
355	<i>T. dukei</i> van Son, 1951	0.08	14.5	85
356	<i>T. holmesi</i> van Son, 1951	0.08	16.8	85
357	<i>T. protunmus</i> van Son, 1941	0.14	19.6	85
358	<i>T. rileyi</i> Pennington, 1956	0.09	17.2	85
359	<i>T. yildizae</i> van Son, 1941	0.07	16.0	85
360	<i>Taraka hamada</i> (Druce, 1875)	0.05	14.5	299
361	<i>Curetis acuta</i> Moore, 1877	0.29	22.8	299
362	<i>Alooides aranda</i> (Wallengren, 1857)	0.21	14.8	85
363	<i>A. clarki</i> Tite & Dickson, 1968	0.21	14.5	85
364	<i>A. damarensis</i> (Trimen, 1891)	0.13	16.6	85
365	<i>A. dentatis</i> (Swierstra, 1909)	0.17	16.5	240
366	<i>A. depicta</i> Tite & Dickson, 1968	0.21	18.3	85
367	<i>A. gowani</i> Tite & Dickson, 1968	0.26	17.7	85
368	<i>A. pallida</i> (Riley, 1938)	0.34	17.1	85
369	<i>A. pieris</i> (Cramer, [1779])	0.20	15.1	85
370	<i>A. sp</i> indet. ³	0.24	16.0	85
371	<i>Aphnaeus hutchinsonii</i> (Trimen, 1887)	0.38	18.3	85

372	<i>Argyrocupha malagrida</i> (Wallengren, 1857)	0.61	15.2	85
373	<i>Axiocerses tjoane</i> Grose-Smith, 1900	0.21	15.9	85
374	<i>Chrysoiritis zeuxo</i> (Linnaeus, 1764)	0.17	13.4	85
375	<i>Crudaria leroma</i> (Wallengren, 1857)	0.15	15.6	85
376	<i>Oxychaeta dicksoni</i> Gabriel, 1947	0.17	16.3	85
377	<i>Phasis braueri</i> Dickson, 1968	0.74	19.8	85
378	<i>P. thero</i> (Linnaeus, 1764)	0.74	18.8	85
379	<i>Poecilmitis adonis</i> Pennington, 1962	0.23	14.4	85
380	<i>P. aridus</i> Pennington, 1953	0.17	12.8	85
381	<i>P. braueri</i> Pennington, 1967	0.17	12.8	85
382	<i>P. felthami</i> (Trimen, 1904)	0.28	12.5	85
383	<i>P. lycogenes</i> (Trimen, 1864)	0.23	12.4	85
384	<i>P. lysander</i> Pennington, 1962	0.19	13.5	85
385	<i>P. nigricans</i> (Aurivillius, 1925)	0.21	13.9	85
386	<i>P. palmus</i> (Cramer, 1781)	0.19	12.8	85
387	<i>P. pyrois</i> (Trimen, 1864)	0.28	14.1	85
388	<i>P. thysbe</i> (Linnaeus, 1764)	0.19	12.8	85
389	<i>P. uranus</i> Pennington, 1962	0.24	13.8	85
390	<i>Spindasis ella</i> (Hewitson, 1865)	0.17	14.1	85
391	<i>S. natalensis</i> (Westwood, 1852)	0.18	17.0	85
392	<i>S. takanonis</i> Matsumura, 1906	0.11	14.7	299
393	<i>Trimenia wallengrenii</i> (Trimen, 1887)	0.89	19.5	85
394	<i>T. argyropлага</i> Dickson, 1967	0.53	17.6	85
395	<i>Tylopaedia sardonys</i> (Trimen, 1868)	0.42	22.0	85;141;153
396	<i>Lycaena alciphron</i> (Rottemburg, 1775)	0.11	18.6	60;302
397	<i>L. clarki</i> (Clark & Dickson, 1971)	0.05	14.3	85
398	<i>L. dispar</i> (Haworth, 1802)	0.08	19.8	53;60
399	<i>L. epixanthe</i> (Boisduval & Le Conte, [1835])	0.14	12.8	163
400	<i>L. helle</i> (D. & Schiff., 1775)	0.07	12.8	53
401	<i>L. helloides</i> (Boisduval, 1852)	0.08	15.0	18;24
402	<i>L. hippothoe</i> (Linnaeus, 1761)	0.08	17.3	60
403	<i>L. orus</i> (Cramer, 1782)	0.06	10.5	85
404	<i>L. phlaeas</i> (Linnaeus, 1761)	0.06	14.6	60
405	<i>L. tityrus</i> (Poda, 1761)	0.10	14.3	53;60
406	<i>L. virgaureae</i> (Linnaeus, 1758)	0.20	16.4	60
407	<i>Heliophorus epicles</i> (Godart, [1824])	0.06	16.0	295
408	<i>Arhopala muta</i> (Hewitson, 1862)	0.12	16.5	295
409	<i>A. bazalus</i> (Hewitson, 1862)	0.09	17.3	299
410	<i>A. ganesa</i> Moore, 1857	0.09	16.0	299
411	<i>A. japonica</i> Murray, 1857	0.14	19.0	299
412	<i>Acrodipsas illidgei</i> (Waterhouse & Lyell, 1914)	0.14	13.9	199
413	<i>Paralucia aurifera</i> (Blanchard, 1848)	0.14	11.8	202
414	<i>P. pyrodiscus</i> (Rosenstock, 1885)	0.23	12.5	202
415	<i>P. spinifera</i> Edwards & Common, 1978	0.10	9.3	202
416	<i>Thecla betulae</i> (Linnaeus, 1758)	0.28	19.3	53;60;233;261
417	<i>Thecla? phydela</i> Hewitson, 1869	0.03	16.5	38
418	<i>Cordelia comes</i> (Leech, 1890)	0.11	15.5	295
419	<i>Laeosopis roboris</i> (Esper, [1793])	0.27	22.5	304
420	<i>Ussuriana takarana</i> (Araki & Hirayama, 1941)	0.11	23.0	295
421	<i>U. stygiana</i> (Butler, 1881)	0.20	22.5	299
422	<i>Shirozua jonasi</i> (Janson, 1877)	0.43	22.0	105;264;299
423	<i>Artopoetes pryeri</i> (Murray, 1873)	0.26	23.0	105;299
424	<i>Coreana raphaelis</i> (Oberthür, 1880)	0.14	19.5	299
425	<i>Chrysozephyrus rarasanus</i> (Matsumura, 1939)	0.31	19.0	295
426	<i>C. hisamatsusanus</i> (Nagami & Ishiga, 1937)	0.11	19.0	295;299
427	<i>C. ataxus</i> (Doubleday & Hewitson, 1852)	0.14	22.5	295;299
428	<i>C. brilliantinus</i> (Staudinger) ²	0.40	20.0	261;299

429	<i>C. smaragdinus</i> Bremer, 1864	0.32	18.5	299
430	<i>Habrodais grunus</i> (Boisduval, 1852)	0.38	16.8	141;153
431	<i>Neozephyrus quercus</i> (Linnaeus, 1758)	0.18	16.3	233;261
432	<i>N. japonicus</i> Murray ²	0.11	16.0	261;299
433	<i>Sibataniozephyrus fujisanus</i> (Matsumura, 1910)	0.25	16.8	250;299
434	<i>S. kuafui</i> Hsu & Lin, 1994	0.30	16.6	277
435	<i>Iratsume orsedice</i> (Butler, 1882)	0.13	18.8	105;299
436	<i>Japonica adusta</i> Riley ²	0.19	19.5	299
437	<i>J. lutea</i> (Hewitson, 1865)	0.24	20.0	261;299
438	<i>J. saepestriata</i> (Hewitson, 1865)	0.16	21.0	299
439	<i>Favonius jezoensis</i> (Matsumura, 1915)	0.20	20.0	299
440	<i>F. latifasciatus</i> Shirozu & Hayashi, 1959	0.16	20.0	299
441	<i>F. orientalis</i> (Murray, 1875)	0.18	19.8	299
442	<i>F. saphirinus</i> (Staudinger, 1887)	0.16	17.8	261;299
443	<i>F. taxila</i> (Bremer, 1861)	0.15	18.3	299
444	<i>F. ultramarinus</i> (Fixsen, 1877)	0.21	19.5	261;299
445	<i>F. yuasai</i> Shirozu, 1948	0.13	19.5	299
446	<i>Araragi entheum</i> (Janson, 1877)	0.11	15.3	105;299
447	<i>Wagimo signatus</i> (Butler, 1882)	0.18	15.5	261;299
448	<i>Antigius atilia</i> (Bremer, 1861)	0.19	17.0	261;299
449	<i>A. butleri</i> (Fenton, 1881)	0.22	16.8	261;299
450	<i>Ogyris genoveva</i> Hewitson, 1853	0.13	18.0	92
451	<i>Myrina dermaptera</i> (Wallengren, 1857)	0.25	16.8	85
452	<i>M. silenus</i> (Trimen, 1879)	0.28	19.9	85
453	<i>Eooxylides tharis</i> (Geyer, 1837)	0.32	16.0	236
454	<i>Iolais silas</i> (Westwood, 1852)	0.15	17.7	85
455	<i>I. aemulus</i> (Trimen, 1895)	0.09	12.8	85
456	<i>I. alienus</i> (Trimen, 1898)	0.17	18.1	85
457	<i>I. aphnaeoides</i> (Trimen, 1837)	0.13	15.0	259
458	<i>I. mimosae</i> (Trimen, 1874)	0.15	15.8	85
459	<i>I. sidus</i> (Trimen, 1895)	0.13	16.2	85
460	<i>I. bowkeri</i> (Trimen, 1864)	0.21	18.1	85
461	<i>Hypolycaena philippus</i> (Fabricius, 1793)	0.05	16.5	85
462	<i>Leptomyrina hirundo</i> (Wallengren, 1857)	0.06	13.4	85
463	<i>L. gorgias</i> (Stoll, 1790)	0.19	14.5	85
464	<i>L. lara</i> (Linnaeus, 1764)	1.00	12.4	85
465	<i>Capys alphaeus</i> (Cramer, [1777])	1.34	20.0	85
466	<i>C. dijunctus</i> Trimen, 1885	0.31	18.5	85
467	<i>Deudorix antalus</i> (Hopffer, 1855)	0.17	16.6	85
468	<i>D. dinochares</i> Grose-Smith, 1887	0.28	18.0	85
469	<i>D. diocles</i> Hewitson, 1869	0.37	19.5	85
470	<i>D. epijarbas</i> (Moore, 157)	0.19	21.0	36
471	<i>Artipe eryx</i> (Linnaeus, 1771)	0.35	17.5	299
472	<i>Rapala aurata</i> (Bremer, 1864)	0.10	15.8	299
473	<i>Callophrys rubi</i> (Linnaeus, 1758)	0.13	13.8	60;233
474	<i>C. avis</i> (Chapman, 1909)	0.10	14.5	89
475	<i>C. loki</i> (Skinner) ²⁴	0.13	13.2	17
476	<i>C. nelsoni</i> (Boisduval) ²⁴	0.17	13.0	29
477	<i>C. ferrea</i> Butler, 1866	0.05	14.5	299
478	<i>Evenus regalis</i> (Cramer, [1775])	0.18	25.0	141;153
479	<i>Satyrrium pruni</i> (Linnaeus, 1758)	0.17	16.4	233;299
480	<i>S. iyonis</i> Ota & Kusunoki, 1957	0.22	14.3	299
481	<i>S. mera</i> (Janson, 1873)	0.10	16.5	299
482	<i>S. esculi</i> (Hübner, [1806])	0.31	16.1	302
483	<i>S. spini</i> (D. & Schiff., 1775)	0.15	16.0	60
484	<i>S. w-album</i> (Knoch, 1782)	0.14	15.5	233;261;299
485	<i>Eumaeus debora</i> (Hewitson?) ¹	0.21	30.0	75

486	<i>E. toxea</i> Godart, 1824 ⁵	0.45	22.0	75
487	<i>E. minijas</i> (Hübner, 1809)	0.46	22.5	75;141;153
488	<i>Candalides cyprotus</i> (Olliff, 1886)	0.11	14.8	179
489	<i>C. gilberti</i> Waterhouse, 1903	0.13	14.5	274
490	<i>Anthene amarah</i> (Guérin, 1847)	0.04	12.8	85
491	<i>A. butleri</i> (Trimen, 1881)	0.10	14.3	85
492	<i>A. definita</i> (Butler, 1899)	0.03	14.3	85
493	<i>A. kersteni</i> (Cramer, [1780])	0.03	14.1	85
494	<i>A. lennos</i> (Hewitson, 1878)	0.04	15.6	85
495	<i>A. otacilia</i> (Trimen, 1868)	0.12	12.2	85
496	<i>A. sp</i> indet. ⁶	0.17	12.5	85
497	<i>A. talboti</i> Stempfer, 1936	0.06	12.5	85
498	<i>Cupidopsis cissus</i> (Godart, 1819)	0.08	17.6	85
499	<i>C. jobates</i> (Hopffer, 1885)	0.07	15.8	85
500	<i>Pseudonacaduba sichela</i> (Wallengren, 1857)	0.02	13.8	85
501	<i>Nacaduba kurava</i> (Moore, 1857)	0.04	12.0	288;299
502	<i>Actizera lucida</i> (Trimen, 1883)	0.03	10.5	85
503	<i>A. stellata</i> (Trimen, 1883)	0.03	9.0	85
504	<i>Cacyreus dicksoni</i> Pennington, 1962	0.06	11.8	85
505	<i>C. lyngeus</i> (Cramer, 1872)	0.04	14.7	85
506	<i>C. marshalli</i> Butler, 1897	0.04	13.5	85;221
507	<i>C. palemon</i> (Cramer, 1782)	0.04	10.5	85
508	<i>C. virilis</i> (Aurivillius, 1924)	0.03	15.2	85
509	<i>Harpencyreus notobia</i> (Trimen, 1868)	0.15	14.7	85
510	<i>Lampides boeticus</i> (Linnaeus, 1767)	0.04	16.5	85;112
511	<i>Jamides alecto</i> (Felder & Felder, 1860)	0.13	20.5	299
512	<i>J. bochus</i> (Stoll, 1782)	0.03	16.5	299
513	<i>Leptotes brevidentatus</i> Tite, 1958	0.04	13.8	85
514	<i>L. cassius</i> (Cramer, [1775])	0.03	12.0	127
515	<i>L. pirithous</i> (Linnaeus, 1767)	0.04	13.5	85;112
516	<i>Tarucus bowkeri</i> (Trimen, 1883)	0.08	13.5	85
517	<i>T. sybaris</i> (Hopffer, 1885)	0.06	12.9	85
518	<i>Tuxentius calice</i> (Hopffer, 1855)	0.03	11.5	85
519	<i>T. melaena</i> (Trimen, 1887)	0.06	12.2	85
520	<i>Zintha hintza</i> (Trimen, 1864)	0.08	13.0	85
521	<i>Zizeeria knysna</i> (Trimen, 1862)	0.03	11.5	85
522	<i>Z. maha</i> Kollar, 1848	0.04	12.8	299
523	<i>Zizina antanossa</i> (Mabille, 1877)	0.06	13.0	85
524	<i>Z. otis</i> (Fabricius, 1787)	0.04	10.5	299
525	<i>Zizula hylax</i> (Fabricius, 1775)	0.01	9.9	85;246
526	<i>Brephidium exilis</i> (Boisduval, 1852)	0.02	8.5	16;141;153
527	<i>B. metophis</i> (Wallengren, 1860)	0.02	9.0	85
528	<i>Cupido lorquinii</i> (Herrich-Schäffer, 1847)	0.04	10.2	189;302
529	<i>C. minimus</i> (Fuessly, 1775)	0.02	10.6	60;233
530	<i>Everes argiades</i> (Pallas, 1771)	0.03	13.0	60;299
531	<i>E. comyntas</i> (Godart, 1828)	0.06	14.5	78
532	<i>E. lacturnus</i> (Godart, [1824])	0.03	12.0	220;299
533	<i>E. fischeri</i> (Eversmann, 1843)	0.02	12.3	299
534	<i>Pithecops corvus</i> Fruhstorfer, [1919]	0.05	13.5	299
535	<i>P. fulgens</i> Doherty, 1889	0.05	12.5	299
536	<i>Azamus jesous</i> (Guérin, 1847)	0.03	12.3	85
537	<i>A. mirza</i> (Plötz, 1880)	0.02	12.5	85
538	<i>A. moriqua</i> (Wallengren, 1857)	0.02	11.9	85
539	<i>A. natalensis</i> (Trimen, 1887)	0.02	13.2	85
540	<i>Eiochrysops hippocrates</i> (Fabricius, 1793)	0.03	10.8	85
541	<i>E. messappus</i> (Godart, 1819)	0.04	10.5	85
542	<i>Celastrina argiolus</i> (Linnaeus, 1758)	0.06	14.5	60

543	<i>C. sugitanii</i> Matsumura ²	0.04	13.8	299
544	<i>Actyolepis puspa</i> (Horsfield, [1828])	0.04	15.0	299
545	<i>Megisba malaya</i> (Horsfield, 1828)	0.03	12.5	299
546	<i>Udara albocerulea</i> (Moore, 1879)	0.05	16.0	299
547	<i>Glaucoopsyche alexis</i> (Poda, 1761)	0.09	15.0	60
548	<i>G. melanops</i> (Boisduval, [1828])	0.07	14.3	302
549	<i>G. piasus</i> (Boisduval, 1852)	0.05	17.0	14;24;141;153
550	<i>G. lygdamus</i> (Doubleday, 1841)	0.06	14.5	9;141;153
551	<i>G. lycormas</i> (Butler, 1868)	0.07	17.5	299
552	<i>Maculinea iolas</i> (Oschenheimer, [1816])	0.06	18.9	189;302
553	<i>M. alcon</i> (D. & Schiff., 1775)	0.05	17.9	53;60;189
554	<i>M. arion</i> (Linnaeus, 1758)	0.05	19.9	4;53;60;189
555	<i>M. nausithous</i> (Bergsträsser, [1779])	0.06	16.7	189;302
556	<i>M. rebeli</i> (Hirschke, 1904)	0.05	16.9	53;189;302
557	<i>M. teleius</i> (Bergsträsser, [1779])	0.05	17.0	53;299
558	<i>M. arionides</i> Staudinger ²	0.10	19.5	299
559	<i>Pseudophilotes abencerragus</i> (Pierret, 1837)	0.02	10.1	302
560	<i>P. panoptes</i> (Hübner, [1813])	0.03	10.8	302
561	<i>P. bavius</i> (Eversmann, 1832)	0.04	14.0	263
562	<i>P. barbaggiae</i> Prins & Porten, 1982	0.08	11.5	301
563	<i>Euphilotes rita</i> (Barnes & McDunnough, 1917) ⁷	0.12	10.9	57
564	<i>E. enoptes</i> (Boisduval, 1852)	0.35	11.8	57
565	<i>Philotiella speciosa</i> (Edwards, 1877)	0.04	8.5	29
566	<i>Sinia divina</i> (Fixsen, 1887)	0.08	20.0	299
567	<i>Scolitantides orion</i> (Pallas, 1771)	0.08	12.5	299
568	<i>Euchrysops barkeri</i> (Trimen, 1893)	0.11	17.0	85
569	<i>E. dolorosa</i> (Trimen, 1877)	0.08	15.0	85
570	<i>E. malathana</i> Boisduval, 1833	0.04	17.8	85
571	<i>E. osiris</i> (Hopffer, 1885)	0.07	18.8	85
572	<i>E. cnejus</i> (Fabricius, 1798)	0.05	14.8	299
573	<i>Lepidochrysops asteris</i> (Godart, 1819)	0.06	19.7	85
574	<i>L. bacchus</i> Riley, 1938	0.06	14.2	77;85
575	<i>L. dukei</i> Cottrell, 1965	0.06	13.9	77
576	<i>L. ketsi</i> Cottrell, 1965	0.06	16.6	77;85
577	<i>L. methymna</i> (Trimen, 1862)	0.09	19.4	77;85
578	<i>L. oreas</i> Tite, 1964	0.09	14.5	85
579	<i>L. patricia</i> (Trimen, 1877)	0.06	21.5	85
580	<i>L. puncticilia</i> (Trimen, 1883)	0.05	14.0	77;85
581	<i>L. trimeni</i> (Bethune-Baker, 1823)	0.10	20.8	85
582	<i>L. variabilis</i> Cottrell, 1965	0.06	17.1	77;85
583	<i>Orachrysops lacrimosa</i> (Bethune-Baker, 1923)	0.06	17.9	85
584	<i>Oboronia ornata</i> (Mabille, 1890)	0.04	17.0	298
585	<i>O. liberiana</i> Stempffer, 1950	0.04	15.0	298
586	<i>Polyommatus damon</i> (D. & Schiff., 1775)	0.07	15.0	60
587	<i>P. thersites</i> (Cantener, 1834)	0.09	14.0	53
588	<i>P. semiargus</i> (Rottemburg, 1775)	0.05	15.0	53
589	<i>P. albicans</i> (Gerhard, 1851)	0.06	17.2	117;304
590	<i>P. bellargus</i> (Rottemburg, 1775)	0.05	15.8	60;233
591	<i>P. coridon</i> (Poda, 1761)	0.06	16.5	60;117;233
592	<i>P. eros</i> (Oschenheimer, 1807)	0.05	12.9	189;302
593	<i>P. golgus</i> (Hübner, [1813])	0.06	13.4	189;302
594	<i>P. icarus</i> (Rottemburg, 1775)	0.05	15.2	53;60;112;233;304
595	<i>P. nivescens</i> (Keferstein, 1851)	0.06	15.0	189;302
596	<i>Chilades trochilus</i> (Freyer, 1844)	0.03	9.5	85
597	<i>Plebeius pylaon</i> (Waldheim, 1832)	0.05	14.7	189;302
598	<i>P. argus</i> (Linnaeus, 1758)	0.10	14.0	53;233;299
599	<i>P. argyrognomon</i> (Bergsträsser, [1779])	0.10	15.0	60;299

600	<i>P. idas</i> (Linnaeus, 1761)	0.07	13.8	53;60
601	<i>P. subsolanus</i> Eversmann, 1851	0.11	16.5	299
602	<i>P. agestis</i> (D. & Schiff., 1775)	0.04	13.0	233
603	<i>P. artaxerxes</i> (Fabricius, 1793)	0.04	12.0	233
604	<i>P. morronensis</i> Ribbe, 1910	0.03	11.9	189;302
605	<i>P. nicias</i> (Meigen, 1829)	0.11	13.2	189;302
606	<i>P. anteros</i> (Freyer, [1838])	0.07	14.0	263
607	<i>P. emigdionis</i> (Grinell, 1905)	0.12	11.4	29
608	<i>Hemiargus hanno</i> Stoll ²	0.01	11.5	43
609	<i>Niphanda fusca</i> (Bremer & Grey, 1853)	0.07	20.5	299
610	<i>Libythea geoffroy</i> Godart, 1820	0.05	37.5	196
611	<i>L. labdacca</i> Westwood & Hewitson, 1851	0.13	25.3	259
612	<i>Libytheana carinenta</i> (Cramer, [1777])	0.06	22.8	2;24
613	<i>Philaetria dido</i> (Linnaeus, 1763)	1.00	50.0	64;140
614	<i>P. wernickei</i> (Röber, 1905)	0.95	48.5	140
615	<i>P. pygmalion</i> Frühstorfer ^{1,2}	0.95	48.5	140
616	<i>Podotricha telesiphe</i> (Hewitson, 1867)	0.39	38.0	140;273
617	<i>Dryadula phaeusa</i> (Linnaeus, 1758)	1.06	40.5	64;140
618	<i>Agraulis vanillae</i> (Linnaeus, 1758)	0.41	37.6	64;140
619	<i>Dione juno</i> (Cramer, [1779])	0.30	38.4	64;140
620	<i>D. moneta</i> (Hübner, [1821])	0.37	38.0	140
621	<i>D. glycera</i> Felder, 1861 ²	0.51	35.0	140
622	<i>Dryas julia</i> (Fabricius, 1775)	0.66	43.5	64;66;75;140
623	<i>Eueides vibilia</i> Stichel, 1903	0.34	32.0	140
624	<i>E. pavana</i> (Ménétriés, 1857)	0.34	32.5	140
625	<i>E. lineata</i> Salvin, 1868	0.30	34.5	140
626	<i>E. procula</i> Doubleday, 1847 ²	0.27	34.5	140
627	<i>E. lampeto</i> Bates, 1862 ²	0.37	37.0	140
628	<i>E. isabella</i> (Cramer, 1781)	0.43	33.7	64;140
629	<i>E. lybia</i> (Fabricius, 1775)	0.26	31.5	140
630	<i>E. tales</i> (Cramer, [1780])	0.37	35.5	140
631	<i>E. aliphera</i> (Godart, 1819)	0.11	30.0	64;140
632	<i>Neruda godmani</i> (Staudinger, 1882)	0.37	37.0	140
633	<i>N. metharme</i> (Erichson, 1848)	0.26	41.5	140
634	<i>N. aoede</i> (Hübner, 1816)	0.23	36.5	140
635	<i>Laparus doris</i> (Linnaeus, 1771)	0.36	40.0	64;140
636	<i>Heliconius xanthocles</i> (Bates, 1862)	0.47	38.5	140
637	<i>H. wallacei</i> Reakirt, 1866	0.49	40.0	64;140
638	<i>H. burneyi</i> (Hübner, 1816)	0.47	46.0	140
639	<i>H. egeria</i> (Cramer, [1775])	0.51	46.0	140
640	<i>H. astraes</i> Staudinger, 1896	0.51	45.0	140
641	<i>H. nattereri</i> Felder, 1865 ²	0.37	41.0	140
642	<i>H. numata</i> (Cramer, [1780])	0.66	40.0	64;140
643	<i>H. ismenius</i> (Latreille, 1817)	0.44	43.5	140
644	<i>H. pardalinus</i> (Bates, 1862)	0.59	42.0	140
645	<i>H. hecale</i> (Fabricius, 1777) ¹³	0.70	44.0	128;140;182
646	<i>H. ethilla</i> Godart, 1819 ²	0.70	42.0	38;140
647	<i>H. atthis</i> (Doubleday & Hewitson, 1847)	0.44	40.5	140
648	<i>H. cydno</i> (Doubleday & Hewitson, 1847)	1.10	42.0	102;140
649	<i>H. pachinus</i> Salvin, 1871	0.84	42.0	140
650	<i>H. heurippa</i> (Hewitson, 1854)	0.84	44.0	140
651	<i>H. timareta</i> Hewitson, 1867 ²	1.08	42.0	140
652	<i>H. elevatus</i> Nöldner, 1901	0.89	42.0	140
653	<i>H. luciana</i> ^{1,2}	0.95	42.0	140
654	<i>H. beschei</i> Ménétriés, 1857	0.51	34.5	140
655	<i>H. melpomene</i> (Linnaeus, 1758)	0.76	38.0	64;140
656	<i>H. charitonius</i> (Linnaeus, 1767) ¹³	0.49	40.0	128;140

657	<i>H. hermathena</i> (Hewitson, 1853)	0.33	41.0	140
658	<i>H. erato</i> (Linnaeus, 1758) ¹³	0.59	40.5	51;64;75;128;140
659	<i>H. clysonymus</i> Latreille, 1817 ²	0.79	39.5	140
660	<i>H. telesiphe</i> (Doubleday, 1847)	0.54	42.0	140
661	<i>H. ricini</i> (Linnaeus, 1758)	0.31	34.4	64;140
662	<i>H. demeter</i> Staudinger, 1896	0.33	34.5	140
663	<i>H. leucadia</i> Bates, 1862	0.34	38.0	140
664	<i>H. sara</i> (Fabricius, 1793)	0.28	33.0	64;140
665	<i>H. antiochus</i> (Linnaeus, 1767)	0.37	42.0	140
666	<i>H. hewitsoni</i> Staudinger, 1875	0.40	37.5	140
667	<i>H. congener</i> Weymer ^{2,8}	0.26	38.0	140
668	<i>H. eleuchia</i> Hewitson ^{2,8}	0.34	39.0	140
669	<i>H. sapho</i> (Drury, 1782)	0.26	37.0	140
670	<i>H. hecalesia</i> Hewitson, 1853 ^{2,13}	0.42	46.5	128;140
671	<i>Argyrenis paphia</i> (Linnaeus, 1758)	0.38	33.0	53;60;233
672	<i>Argyreus hyperbius</i> (Linnaeus, 1763)	0.23	39.0	116
673	<i>Brenthis daphne</i> (D. & Schiff., 1775)	0.55	23.0	53
674	<i>B. hecate</i> (D. & Schiff., 1775)	0.28	23.7	69;304
675	<i>B. ino</i> (Rottemburg, 1775)	0.27	20.0	53
676	<i>B. mofidii</i> Wyatt, 1969	0.35	26.1	241
677	<i>Fabriciana adippe</i> (Linnaeus, 1767)	0.28	27.5	53;60;233;304
678	<i>F. niobe</i> (Linnaeus, 1758)	0.30	28.0	53;304
679	<i>F. auresiana</i> (Fruhstorfer, 1908)	0.32	25.5	102
680	<i>Issoria lathonia</i> (Linnaeus, 1758)	0.12	21.0	53;60
681	<i>Mesoacidalia aglaja</i> (Linnaeus, 1758)	0.37	29.0	53;60;233
682	<i>Pandoriana pandora</i> (D. & Schiff., 1775)	0.08	34.0	304
683	<i>Speyeria aphroditte</i> (Fabricius, 1787)	0.15	33.0	2
684	<i>S. atlantis</i> (Edwards, 1872)	0.18	28.8	2
685	<i>S. cybele</i> (Fabricius, 1775)	0.27	39.8	2
686	<i>S. idalia</i> (Drury, 1773)	0.26	41.5	2
687	<i>S. hydaspe</i> (Boisduval, 1869)	0.22	27.9	42
688	<i>S. nokomis</i> (Edwards, 1862)	0.68	38.2	42
689	<i>S. callippe</i> (Boisduval, 1852)	0.22	29.3	42
690	<i>Boloria aquilonaris</i> (Stichel, 1908)	0.18	19.0	53
691	<i>B. bellona</i> (Fabricius, 1775)	0.21	20.0	2
692	<i>B. dia</i> (Linnaeus, 1767)	0.17	17.0	53;60
693	<i>B. euphrosyne</i> (Linnaeus, 1758)	0.19	21.3	53;233
694	<i>B. selene</i> (D. & Schiff., 1775)	0.15	20.8	53;60;233
695	<i>B. eunomia</i> (Esper, 1799)	0.14	19.5	53
696	<i>Euptoieta hegesia</i> (Cramer, [1779])	0.19	30.5	75
697	<i>Phalanta phalantha</i> (Drury, 1770)	0.21	27.6	131
698	<i>P. eurytis</i> (Doubleday, 1847)	0.17	26.2	131
699	<i>Acraea petraea</i> Boisduval, 1847	0.15	25.4	70
700	<i>A. violarum</i> Boisduval, 1847	0.23	20.5	70
701	<i>A. nohara</i> Boisduval, 1847	0.18	22.7	70
702	<i>A. caldarena</i> Hewitson, 1877	0.28	25.0	70
703	<i>A. oncaea</i> Hopffer, 1855	0.17	24.3	70
704	<i>A. natalica</i> Boisduval, 1847	0.23	31.5	70
705	<i>A. zetes</i> (Linnaeus, 1758)	0.32	34.0	70
706	<i>A. neobule</i> (Doubleday, 1848)	0.19	27.5	70
707	<i>A. horta</i> (Linnaeus, 1764)	0.22	30.3	70
708	<i>A. aganice</i> (Hewitson, 1852)	0.19	35.8	70
709	<i>A. igola</i> Trimen, 1889	0.08	24.0	70
710	<i>A. encedon</i> (Linnaeus, 1758)	0.98	29.5	70
711	<i>A. esebria</i> Hewitson, 1861	0.12	29.3	70
712	<i>A. eponina</i> (Cramer, [1780])	0.12	21.9	70
713	<i>A. cabira</i> Hopffer, 1855	0.12	23.8	70

714	<i>A. obeira</i> Hewitson, 1863	0.10	25.0	70
715	<i>A. anacreon</i> Trimen, 1868	0.19	25.5	70
716	<i>A. rahira</i> Boisduval, 1833	0.98	22.0	70
717	<i>Parodopsis punctatissima</i> (Boisduval, 1833)	0.21	16.8	70
718	<i>Aglais urticae</i> (Linnaeus, 1758)	0.20	23.8	60;233
719	<i>Araschnia levana</i> (Linnaeus, 1758)	0.99	18.0	60
720	<i>Cynthia cardui</i> (Linnaeus, 1758)	0.15	29.4	2;60;233;304
721	<i>Inachis io</i> (Linnaeus, 1758)	0.11	28.6	53;60;233
722	<i>Nymphalis antiopa</i> (Linnaeus, 1758)	0.24	33.8	2;53;60
723	<i>N. milberti</i> (Godart, [1824])	0.05	23.8	2
724	<i>N. polychloros</i> (Linnaeus, 1758)	0.23	30.5	60;233
725	<i>Polygonia comma</i> Harris, 1862	0.16	28.5	2
726	<i>P. c-album</i> (Linnaeus, 1758)	0.20	23.3	60;233;304
727	<i>P. faunus</i> (Edwards, 1862)	0.25	27.5	2
728	<i>P. interrogationis</i> (Fabricius, 1793)	0.45	29.0	2
729	<i>P. progné</i> (Cramer, [1775])	0.21	25.5	2
730	<i>Vanessa atalanta</i> (Linnaeus, 1758)	0.12	30.0	2;60;233
731	<i>Antanartia schaeneia</i> (Trimen, 1879)	0.47	26.2	131
732	<i>A. hippomene</i> (Hübner, 1806)	0.17	24.4	131
733	<i>Amnosia decora</i> Doubleday, 1849	1.05	43.5	295
734	<i>Anartia amalthea</i> (Linnaeus, 1758)	0.15	26.0	130
735	<i>A. fatima</i> Godart, 1820 13	0.08	28.5	94;130
736	<i>A. jatrophae</i> (Linnaeus, 1763)	0.10	20.0	44;66
737	<i>A. lytrea</i> (Godart, 1819)	0.18	30.5	44
738	<i>Junonia coenia</i> Hübner, 1822	0.07	25.5	2
739	<i>J. evarete</i> (Cramer, 1782)	0.17	27.5	44
740	<i>J. oenone</i> (Linnaeus, 1758)	0.15	25.6	131
741	<i>J. hierta</i> (Fabricius, 1798)	0.11	25.0	131
742	<i>J. terea</i> (Drury, 1773)	0.13	27.2	131
743	<i>J. natalica</i> Felder & Felder, 1860	0.18	27.2	131
744	<i>Precis iphita</i> (Cramer, [1779])	0.17	38.0	295
745	<i>P. octavia</i> (Cramer, [1777])	0.21	29.0	63
746	<i>P. orithya</i> (Linnaeus, 1758)	0.14	26.5	131;295
747	<i>P. ceryne</i> (Boisduval, 1847)	0.18	24.2	131
748	<i>P. archesia</i> (Cramer, [1779])	0.20	30.3	131
749	<i>P. tugela</i> Trimen, 1879	0.27	29.5	131
750	<i>Siproeta epaphus</i> (Latreille, 1811) ¹³	0.53	44.6	93;94
751	<i>S. stelenes</i> (Linnaeus, 1758) ¹³	0.59	46.5	43;94
752	<i>Catacroptera cloanthe</i> (Stoll, [1781])	0.52	29.7	131
753	<i>Protophoniomorpha parhassus</i> (Drury, 1782)	0.63	43.8	131
754	<i>Hypolimnas misippus</i> (Linnaeus, 1764)	0.15	45.0	131
755	<i>H. deceptor</i> (Trimen, 1873)	0.15	39.5	131
756	<i>H. anthedon</i> (Doubleday, 1845)	0.15	44.5	131
757	<i>Euphydryas aurinia</i> (Rottemburg, 1775)	0.21	21.5	53;60
758	<i>E. beckeri</i> (Herrich-Schäffer, 1851)	0.16	23.4	304
759	<i>E. maturna</i> (Linnaeus, 1758)	0.14	21.0	53;60
760	<i>E. phaeton</i> (Drury, 1773)	0.21	28.0	2
761	<i>Thessalia leanira</i> (Felder & Felder, 1860)	0.34	19.7	27
762	<i>Chlosyne harrisii</i> (Scudder, 1862)	0.08	20.2	2
763	<i>C. nycteis</i> (Doubleday, 1847)	0.08	20.5	2
764	<i>Melitaea britomartis</i> (Assmann, 1847)	0.11	17.0	55
765	<i>M. cinxia</i> (Linnaeus, 1758)	0.09	19.8	53;60;233
766	<i>M. diamina</i> (Lang, 1789)	0.07	18.0	53;60
767	<i>M. didyma</i> (Esper, [1779])	0.19	22.0	53;60
768	<i>M. phoebe</i> (D. & Schiff., 1775)	0.08	23.2	157
769	<i>Mellicta athalia</i> (Rottemburg, 1775)	0.14	19.5	53;60;233
770	<i>M. aurelia</i> (Nickerl, 1850)	0.05	16.5	60

771	<i>M. deione</i> Duponchel, [1832]	0.18	20.9	79;304
772	<i>Eresia eutropia</i> Hewitson, 1874	0.17	25.0	100
773	<i>Phyciodes campestris</i> (Behr, 1863)	0.14	17.6	2;34
774	<i>P. tharos</i> (Drury, 1773)	0.05	17.5	2
775	<i>Atlantea tulita</i> (Dewitz, 1877)	0.26	31.0	260
776	<i>Colobura dirce</i> (Linnaeus, 1764)	0.36	36.0	31;54
777	<i>Historis acheronta</i> (Fabricius, 1775)	1.53	47.5	260
778	<i>H. odius</i> (Fabricius, 1775)	0.91	57.5	303
779	<i>Smyrna blomfieldia</i> (Fabricius, 1782)	0.32	40.0	38
780	<i>Sea sophronia</i> (Godart, [1824])	0.26	32.0	258
781	<i>Eunica bechina</i> (Hewitson, 1852)	0.21	30.2	229
782	<i>Sallya natalensis</i> (Boisduval, 1847)	0.09	26.2	131
783	<i>S. boisduvali</i> (Wallengren, 1857)	0.11	23.3	131
784	<i>S. trimeni</i> (Aurivillius, 1889)	0.09	23.8	131
785	<i>Ariadne merione</i> (Cramer, [1777])	0.12	32.9	295
786	<i>Eurytela dryope</i> (Cramer, [1775])	0.27	28.5	131
787	<i>E. hiarbas</i> (Drury, 1782)	0.27	25.9	131
788	<i>Byblia acheloia</i> (Wallengren, 1857)	0.13	25.0	131
789	<i>B. ilithyia</i> (Drury, 1773)	0.13	25.0	131
790	<i>Hamadryas februa</i> (Hübner, 1823)	0.65	36.0	72
791	<i>Adelpha celerio</i> Bates, 1864	0.35	30.5	66
792	<i>A. iphichus</i> (Linnaeus, 1758)	0.28	28.0	66
793	<i>A. syma</i> (Godart, [1824])	0.34	22.5	38
794	<i>Cymothoe alcimeda</i> (Godart, [1824])	0.30	27.0	131
795	<i>Limenitis archippus</i> (Cramer, [1775])	0.34	44.0	2
796	<i>L. arthemis</i> (Drury, 1773)	0.69	39.0	2
797	<i>L. camilla</i> (Linnaeus, 1764)	0.39	28.0	60;193
798	<i>L. populi</i> (Linnaeus, 1758)	1.03	40.0	181
799	<i>L. reducta</i> (Staudinger, 1901)	0.26	25.3	170;304
800	<i>Pseudacraea lucretia</i> (Cramer, [1775])	1.41	35.8	131
801	<i>P. boisduvalii</i> (Doubleday, 1845)	4.61	43.0	131
802	<i>Pantoporia hordonia</i> (Stoll, 1790)	0.73	24.5	295
803	<i>P. perius</i> (Linnaeus, 1758)	0.70	30.0	37
804	<i>Neptis praslini</i> Boisduval, 1832	0.48	29.0	185
805	<i>N. saclava</i> (Boisduval, 1833)	0.27	23.8	131
806	<i>N. laeta</i> Overlaet, 1955	0.58	27.5	131
807	<i>Bebearia orientis</i> (Karsch, 1895)	0.82	32.7	259
808	<i>Dophla evelina</i> (Stoll, 1790)	11.5	54.0	295
809	<i>Euthalia amanda</i> (Hewitson, 1862)	2.71	40.5	295
810	<i>Lexias dirtea</i> (Fabricius, 1793)	2.71	46.5	295
811	<i>Mahaldia formosana</i> (Frühstorfer, 1899)	2.87	45.0	295
812	<i>Tanaecia iapis</i> (Godart, [1824])	2.59	33.0	295
813	<i>Hamanumida daedalus</i> (Fabricius, 1775)	1.54	31.6	131
814	<i>Marpesia petreus</i> (Cramer, 1778)	0.13	40.0	66
815	<i>Cyrestis pantheus</i> (Lathi, 1901)	0.38	28.5	259
816	<i>Charaxes bernardus</i> (Fabricius, 1793)	2.74	46.5	295
817	<i>C. varanes</i> (Cramer, 1764)	1.58	40.5	23;86;131;195
818	<i>C. fulvescens</i> (Aurivillius, 1891)	1.86	47.9	23
819	<i>C. paphianus</i> Ward, 1871	0.90	29.4	195
820	<i>C. zoolina</i> (Westwood, 1850)	0.50	27.8	131;195
821	<i>C. nichetes</i> Grose-Smith, 1883	1.77	37.8	195
822	<i>C. candiopo</i> (Godart, [1824])	1.65	44.6	23;131;195
823	<i>C. jasius</i> (Linnaeus, 1767)	2.74	42.9	304
824	<i>C. epijasius</i> Reiche, 1850	0.98	47.3	23;195
825	<i>C. saturnus</i> Butler, 1865	3.00	45.4	131;195
826	<i>C. pelias</i> (Cramer, [1776])	2.14	41.1	52;131;195
827	<i>C. castor</i> (Cramer, [1775])	2.14	52.5	23;131;195

828	<i>C. brutus</i> (Cramer, [1779])	3.23	42.2	23;131;195
829	<i>C. pollux</i> (Cramer, [1775])	1.54	39.1	131;171;195
830	<i>C. dowssetti</i> Henning, 1988	4.15	50.8	195
831	<i>C. druceanus</i> Butler, 1869	3.61	41.4	131;171;195
832	<i>C. numenes</i> (Hewitson, 1865)	1.77	47.7	23;195
833	<i>C. tiridates</i> (Cramer, [1777])	4.19	56.1	23;195
834	<i>C. bohemani</i> Felder, 1859	5.24	44.7	195
835	<i>C. xiphares</i> (Cramer, 1781)	3.02	51.2	131;195
836	<i>C. nandina</i> Rothschild & Jordan, 1901	4.19	51.8	195
837	<i>C. cithaeron</i> Felder, 1859	3.59	45.5	23;86;131;195
838	<i>C. achaemenes</i> Felder & Felder, 1867	2.14	38.5	131;195
839	<i>C. etesipe</i> (Godart, [1824])	4.19	41.8	23;195
840	<i>C. jahlusa</i> Trimen, 1862	1.13	26.6	131;195
841	<i>C. eupale</i> (Drury, 1782)	0.52	31.2	23;195
842	<i>C. dilutus</i> Rothschild, 1898	0.52	28.3	23;195
843	<i>C. anticlea</i> (Drury, 1782)	0.29	27.5	23;195
844	<i>C. baumanni</i> Rogenhofer, 1851	0.28	27.6	23;195
845	<i>C. catachorus</i> Staudinger, 1896	0.52	36.8	195
846	<i>C. etheocles</i> (Cramer, [1777])	0.52	37.3	23;195
847	<i>C. marieps</i> Van Someren & Jackson, 1957	3.05	39.3	195
848	<i>C. karkloof</i> Van Someren & Jackson, 1957	1.77	35.7	195
849	<i>C. pondoensis</i> Van Someren, 1967	2.14	33.2	195
850	<i>C. nyikensis</i> Van Someren, 1975	3.05	38.7	195
851	<i>C. ethalion</i> Boisduval, 1847	1.61	35.4	131;195
852	<i>C. cedreatis</i> Hewitson, 1874	0.52	38.0	195
853	<i>C. chintechi</i> Van Someren, 1975	1.77	36.8	195
854	<i>C. chittyi</i> Rydon, 1980	1.15	34.3	195
855	<i>C. howarthi</i> Minig, 1976	1.15	34.3	195
856	<i>C. fulgurata</i> Aurivillius, 1889	0.52	33.3	195
857	<i>C. phaeus</i> Hewitson, 1877	1.77	34.6	195
858	<i>C. fionae</i> Henning, 1977	1.77	27.3	115;195
859	<i>C. viola</i> Butler, 1865	0.90	31.9	195
860	<i>C. kirki</i> Butler, 1881	0.90	39.1	195
861	<i>C. vansoni</i> Van Someren, 1975	0.90	31.6	23;129;195
862	<i>C. berkeleyi</i> Van Someren & Jackson, 1957	1.77	34.7	195
863	<i>C. martini</i> Van Someren, 1966	1.44	33.0	143;195
864	<i>C. gallagheri</i> Van Son, 1962	1.44	35.2	195
865	<i>C. guderiana</i> (Dewitz, 1879)	1.77	32.8	195
866	<i>Prothoe calydina</i> (Hewitson, 1855)	2.02	50.5	295
867	<i>Agrias amydon</i> (Hewitson, [1854])	3.56	44.0	155
868	<i>A. claudina</i> (Godart, [1824])	14.9	45.5	166
869	<i>Archaeoprepona demophoon</i> (Linnaeus, 1758)	7.92	52.4	113
870	<i>Noreppa chromus</i> (Guérin, 1844)	3.22	51.5	86
871	<i>Prepona omphale</i> (Hübner, 1819)	5.04	48.4	30;32;98
872	<i>Fountainea ryphaea</i> (Cramer, [1775])	0.52	29.5	248
873	<i>Consul fabius</i> (Cramer, [1776])	0.52	36.9	104
874	<i>Euxanthe eurinome</i> (Cramer, [1775])	4.19	45.5	23;195
875	<i>E. wakefieldi</i> (Ward, 1873)	1.19	45.0	131;195
876	<i>E. tiberius</i> Grose-Smith, 1889	4.19	52.0	195
877	<i>Palla usheri</i> Butler, 1870	0.63	42.8	23;195
878	<i>Apatura iris</i> (Linnaeus, 1758)	0.70	37.5	60;233
879	<i>Asterocampa cellis</i> (Boisduval & Le Conte, [1835])	0.45	25.6	57;187
880	<i>A. leilia</i> (Edwards, 1874)	0.42	24.1	57
881	<i>A. clyton</i> (Boisduval & Le Conte, [1835])	0.20	27.6	2;187
882	<i>A. texana</i> (Skinner, 1911) ⁹	0.37	28.3	65;187
883	<i>A. idyja</i> (Geyer, [1828])	0.29	31.2	174;187
884	<i>Sephisia princeps</i> (Fixsen, 1887)	0.99	39.0	282

885	<i>Morpho anaxibia</i> (Esper, 1777)	7.00	73.0	38
886	<i>M. catenarius</i> (Perry, 1811)	1.52	63.0	50
887	<i>M. hercules</i> (Dalman, 1861?) ¹	2.15	71.5	38
888	<i>M. menelaus</i> (Linnaeus, 1758)	7.78	88.0	38
889	<i>M. peleides</i> Kollar, 1850	2.09	68.0	223
890	<i>Antirrhoea philoctetes</i> (Linnaeus, 1764)	4.09	47.0	214
891	<i>Amathusia phidippus</i> (Linnaeus, 1763)	1.68	55.0	295
892	<i>Faunis canens</i> (Hübner, [1819])	1.38	37.0	295
893	<i>F. phaon</i> (Erichson, 1834)	1.30	38.5	295
894	<i>Taenaris artemis</i> (Snellen, 1860)	1.65	47.5	287
895	<i>T. catops</i> ? ¹	1.65	47.0	287
896	<i>T. onolaus</i> ? ¹	1.77	47.0	159
897	<i>Thauria aliris</i> (Westwood, [1858])	5.05	58.0	295
898	<i>Zeuxidia amethystus</i> Butler, 1865	2.66	56.0	295
899	<i>Z. aurelius</i> (Cramer, [1777])	6.41	70.5	295
900	<i>Z. doubledayi</i> Westwood, 1851	3.57	59.0	295
901	<i>Pierella hyalinus</i> (Gmelin, 1788)	0.52	44.0	213
902	<i>Melanitis constantia</i> (Cramer, [1777])	1.77	42.0	265
903	<i>M. leda</i> (Linnaeus, 1763)	0.66	39.0	61;182
904	<i>Gnophodes parmeno</i> (Butler, 1880)	0.82	36.5	61
905	<i>Kirinia roxelana</i> (Cramer, [1777])	0.18	31.3	263
906	<i>Lasiommata maera</i> (Linnaeus, 1758)	0.56	24.9	53;60;262
907	<i>L. megera</i> (Linnaeus, 1767)	0.38	22.4	53;60;233;262
908	<i>L. petropolitana</i> (Fabricius, 1787)	0.40	21.4	262
909	<i>Lethe diana</i> Butler, 1866 ¹³	0.52	27.0	182
910	<i>L. dura</i> (Marshall, 1882)	0.86	38.5	295
911	<i>L. europa</i> (Fabricius, 1775) ¹³	1.38	34.0	295;182
912	<i>L. gemina</i> Fruhstorfer, 1914	0.24	33.3	278
913	<i>L. rohria</i> (Fabricius, 1787)	0.85	33.5	295
914	<i>L. sicelis</i> (Hewitson, 1866)	0.70	33.0	218
915	<i>L. verma</i> (Kollar, 1884)	0.58	27.0	295
916	<i>Lopinga achine</i> (Scopoli, 1763)	0.72	26.5	262
917	<i>Neorina lowii</i> (Doubleday, [1849])	3.55	57.0	295
918	<i>Pararge aegeria</i> (Linnaeus, 1758)	0.36	21.9	53;60;233;262
919	<i>P. xiphia</i> (Fabricius, 1775)	0.92	26.1	262
920	<i>P. xiphoides</i> (Staudinger, 1871)	0.49	25.3	262
921	<i>Satyrodes eurydice</i> (Johannsen, 1763)	0.60	23.8	2
922	<i>S. portlandia</i> (Fabricius, 1781)	0.45	30.0	2
923	<i>Aeropetes tulbaghia</i> (Linnaeus, 1764)	0.76	46.0	61
924	<i>Paralethe dendrophilus</i> (Trimen, 1862)	0.52	38.0	61
925	<i>Zethenia pimplea</i> (Erichson, 1834)	1.79	42.5	295
926	<i>Elymnias agondas</i> ? ¹	1.54	42.5	162;243
927	<i>E. casiphona</i> Geyer, [1827]	2.22	46.0	295
928	<i>E. melias</i> (Felder, 1863)	1.77	43.0	295
929	<i>E. nesaea</i> (Linnaeus, 1764)	1.95	37.0	295
930	<i>Bicyclus anynana</i> (Butler, 1879)	0.52	21.2	259
931	<i>B. safitza</i> Hewitson, 1851	0.57	25.5	61
932	<i>Mycalis anaxioides</i> (Marshall, 1883)	1.97	32.0	295
933	<i>M. gothama</i> Moore, 1857	0.55	25.5	182
934	<i>M. maiaenas</i> Hewitson, 1864	0.96	25.5	295
935	<i>M. perseus</i> (Fabricius, 1775)	0.49	23.7	245
936	<i>M. sirius</i> (Fabricius, 1775)	0.58	24.8	245
937	<i>M. terminus</i> (Fabricius, 1775)	0.56	24.8	245
938	<i>Orsotriaena medus</i> (Fabricius, 1775)	0.52	23.0	265
939	<i>Henotesia perspicua</i> (Trimen, 1873)	0.47	21.5	61
940	<i>Ragadia luzonia</i> Felder & Felder, 1863	0.28	23.3	147
941	<i>Acrophthalmia artemis</i> Felder & Felder, 1861	0.07	18.8	147

942	<i>Hypocista angustata</i> Waterhouse & Lyell, 1914	0.11	18.0	190
943	<i>H. irius</i> (Fabricius, 1775)	0.27	19.0	190
944	<i>Tisiphone helena</i> (Olliff, 1888)	1.41	36.0	232
945	<i>Ypthima asterope</i> (Moore, 1857)	0.39	24.0	176
946	<i>Y. impura</i> Elwes & Edwards, 1873	0.47	19.0	259
947	<i>Y. loryma</i> Hewitson, 1865	0.27	20.5	295
948	<i>Y. praenubila</i> Leech, 1891	0.70	30.4	295
949	<i>Coenrya aurantiaca</i> Aurivillius, 1910	0.37	20.0	61
950	<i>C. hebe</i> (Trimen, 1862)	0.47	17.0	259
951	<i>Melampias steniptera</i> Van Son, 1955	0.42	19.3	259
952	<i>M. huebneri</i> van Son, 1955	0.47	20.0	61
953	<i>Strabena tamatavae</i> (Boisd., 1833)	0.70	19.0	183
954	<i>Physcaeneura panda</i> (Boisduval, 1847)	0.72	19.0	61
955	<i>Cassionympha cassius</i> (Godart, 1823)	0.55	19.0	61
956	<i>Neita durbani</i> (Trimen, 1887)	0.63	21.0	61
957	<i>N. extensa</i> (Butler, 1898)	0.73	23.5	61
958	<i>Pseudonympha hippia</i> (Cramer, 1782)	0.69	19.5	61
959	<i>P. trimenii</i> (Butler, 1868)	0.65	21.0	61
960	<i>P. magus</i> (Fab., 1793)	0.34	19.5	61
961	<i>P. magoides</i> van Son, 1955	0.47	21.0	61
962	<i>P. detecta</i> Trimen, 1914	0.44	19.5	61
963	<i>Stygionympha vigilans</i> (Trimen, 1887)	1.38	24.5	61
964	<i>S. wichgrafi</i> van Son, 1955	0.58	22.5	61
965	<i>S. irrorata</i> (Trimen, 1873)	0.47	17.5	61
966	<i>Megisto cymela</i> ¹	0.31	20.2	2
967	<i>Neonympha areolata</i> (Abbot & Smith, 1779)	0.69	18.1	2
968	<i>Taygetis andromeda</i> (Cramer, [1779])	1.15	35.0	164
969	<i>Coenonympha oedippus</i> (Fabricius, 1787)	0.13	21.0	182
970	<i>C. arcania</i> (Linnaeus, 1761)	0.49	18.1	53;60;233;262
971	<i>C. glycerion</i> (Borkhausen, 1788)	0.29	17.0	60
972	<i>C. hero</i> (Linnaeus, 1761)	0.23	16.8	145
973	<i>C. iphioides</i> Staudinger, 1870	0.42	19.1	262;304
974	<i>C. leander</i> (Esper, [1784])	0.29	16.7	304
975	<i>C. tullia</i> (Müller, 1764)	0.23	18.9	53;233
976	<i>C. austauti</i> Oberthür, 1881	0.40	14.7	192
977	<i>C. corinna</i> (Hübner, 1804)	0.30	15.0	284;304
978	<i>C. dorus</i> (Esper, [1782])	0.53	16.7	262;304
979	<i>C. elbana</i> Staudinger, 1901	0.17	13.3	285
980	<i>C. pamphilus</i> (Linnaeus, 1758)	0.20	16.6	53;60;123;233;262
981	<i>C. saadi</i> Kollar, 1848	0.07	17.0	148
982	<i>C. thyrsis</i> Freyer, 1845	0.24	14.1	169
983	<i>Aphantopus hyperantus</i> (Linnaeus, 1758)	0.26	21.2	53;60;233;262
984	<i>Cercyonis oetus</i> (Boisduval, 1869)	0.36	21.8	275;24
985	<i>C. pegala</i> (Fabricius, 1793)	0.45	29.8	2;90;230;275
986	<i>Hyponephele lupinus</i> (Costa, [1836])	0.13	22.7	230;262
987	<i>H. lycaon</i> (Kühn, 1774)	0.22	22.3	60;262;230
988	<i>H. maroccana</i> (Blachier, 1908)	0.08	19.0	102
989	<i>Maniola jurtina</i> (Linnaeus, 1758)	0.08	25.8	53;60;230;262
990	<i>M. nurag</i> Ghiliani, 1852	0.08	22.8	230
991	<i>Pyronia bathseba</i> (Fabricius, 1793)	0.27	20.4	230;262
992	<i>P. cecilia</i> (Vallantin, 1894)	0.11	19.6	6;230;262
993	<i>P. tithonus</i> (Linnaeus, 1771)	0.13	18.9	53;233;262
994	<i>Proterebia afra</i> (Fabricius, 1787) ¹⁰	1.04	22.8	160
995	<i>Erebia eriphyle</i> (Freyer, 1836)	0.26	17.5	25
996	<i>E. euryale</i> (Esper, [1805])	0.45	21.3	304
997	<i>E. ligea</i> (Linnaeus, 1758)	0.45	24.3	53;60
998	<i>E. manto</i> (D. & Schiff., 1775)	0.36	20.0	142

999	<i>E. meta</i> Staudinger, 1886	0.50	24.0	198
1000	<i>E. meolans</i> (Prunner, 1798)	0.58	22.9	5;60;165;169;262
1001	<i>E. palarica</i> Chapman, 1903	0.76	26.7	262
1002	<i>E. medusa</i> (D. & Schiff., 1775)	0.40	21.6	53;60;146;263
1003	<i>E. aethiopella</i> (Hoffmannsegg, 1806)	0.30	18.5	59
1004	<i>E. cassioides</i> (Hochenwartz, 1793)	0.42	18.4	262
1005	<i>E. epistygne</i> (Hübner, [1824])	0.47	25.0	252
1006	<i>E. gorge</i> (Esper, [1805])	0.39	19.1	304
1007	<i>E. hispania</i> Butler, 1868	0.42	19.5	59;262;266
1008	<i>E. ottomana</i> Herrich-Schäffer, [1847]	0.40	21.1	59;263
1009	<i>E. claudina</i> (Borkhausen, 1789)	0.30	17.0	138
1010	<i>E. epiphron</i> (Knoch, 1783)	0.26	17.5	233
1011	<i>E. lefebvrei</i> (Boisduval, 1828)	0.59	21.2	304
1012	<i>E. melancholica</i> Herrich-Schäffer, [1846]	1.05	21.3	263
1013	<i>E. melas</i> (Herbst, 1796)	0.87	21.0	253
1014	<i>E. neoridas</i> (Boisduval, 1828)	0.47	22.8	170;262
1015	<i>E. scipio</i> (Boisduval, 1832)	0.53	22.0	59
1016	<i>E. zapateri</i> Oberthür, 1875	0.47	24.5	88;262;267
1017	<i>E. triarius</i> (Prunner, 1798)	0.82	24.5	304
1018	<i>E. aethiops</i> (Esper, 1777)	0.72	23.2	60;263
1019	<i>E. niphonica</i> (Janson, 1877)	0.48	22.0	218
1020	<i>Calisto batesi</i> Michener, 1943	0.17	14.0	291
1021	<i>C. confusa</i> Lathy, 1899	0.30	15.0	291
1022	<i>C. grannus</i> Bates, 1939	0.34	16.5	291
1023	<i>C. herophile</i> Hübner, 1823	0.18	17.5	43
1024	<i>C. hysius</i> (Godart, 1819)	0.18	17.0	291
1025	<i>C. pulchella</i> Lathy, 1899	1.29	23.5	291
1026	<i>Oeneis glacialis</i> (Moll, 1783)	1.21	28.8	1
1027	<i>O. jutta</i> (Hübner, 1806)	0.59	28.8	2
1028	<i>O. polixenes</i> (Fabricius, 1775)	0.51	23.1	2
1029	<i>Arethusana arethusa</i> (D. & Schiff., 1775)	0.30	24.0	53;262;263
1030	<i>Kanetisa circe</i> (Fabricius, 1775)	0.33	37.1	53;262
1031	<i>Minois dryas</i> (Scopoli, 1763)	0.64	32.7	60;262
1032	<i>Berberia abdelkader</i> (Pierret, 1837)	2.68	35.0	10
1033	<i>B. lambessanus</i> (Staudinger, 1901)	2.78	66.5	10
1034	<i>Satyrus actaea</i> (Esper, 1780)	0.51	26.1	256;257;262
1035	<i>S. amasynus</i> Staudinger, 1861	0.61	26.4	263
1036	<i>S. favonius</i> Staudinger, 1892	2.55	28.8	263
1037	<i>S. ferula</i> (Fabricius, 1793)	1.03	28.9	53;262;283
1038	<i>Chazara briseis</i> (Linnaeus, 1764)	0.33	31.6	10;53;60;137;262
1039	<i>C. priouri</i> (Pierret, 1837)	0.40	34.0	7;10;262
1040	<i>Pseudochazara cingovskii</i> Gross, 1973	0.90	26.0	134
1041	<i>P. graeca</i> (Staudinger, 1870)	0.63	26.3	133
1042	<i>P. hippolyte</i> (Esper, 1784)	0.61	25.0	262;266;304
1043	<i>P. lydia</i> (Staudinger, 1878)	0.71	28.6	263
1044	<i>P. mnizechii</i> (Herrich-Schäffer, [1851])	0.71	28.3	263
1045	<i>Hipparchia alcyone</i> (D. & Schiff., 1775)	0.59	30.2	8;60;217
1046	<i>H. fagi</i> (Scopoli, 1763)	0.71	32.2	53;304
1047	<i>H. neomiris</i> (Godart, [1824])	0.39	24.5	269
1048	<i>H. ellena</i> (Oberthür, 1894)	0.66	31.5	10
1049	<i>H. aristaeus</i> (Bonelli, 1826)	0.19	28.6	269
1050	<i>H. azorina</i> (Strecker, 1899)	0.56	24.1	150
1051	<i>H. pellucida</i> (Stauder, 1924)	0.23	29.8	263
1052	<i>H. semele</i> (Linnaeus, 1758)	0.25	26.8	53;60;217;233
1053	<i>H. leighebi</i> Kudrna, 1976	0.42	32.9	268;304
1054	<i>H. sbordoni</i> Kudrna, 1984	0.38	29.9	304
1055	<i>H. hansii</i> (Austaut, 1879)	0.34	24.0	10

1056	<i>H. stalinus</i> (Hufnagel, 1766)	0.29	26.9	217;262
1057	<i>H. powelli</i> (Oberthür, 1910)	0.27	24.0	102
1058	<i>H. fidia</i> (Linnaeus, 1767)	1.07	29.7	10;217;254;262
1059	<i>H. wyssii</i> (Christ, 1889)	0.91	30.5	226
1060	<i>Melanargia halimede</i> (Ménétriés, 1859)	0.51	31.0	151;262
1061	<i>M. russiae</i> (Esper, 1783)	0.44	29.0	151;262;271
1062	<i>M. larissa</i> (Geyer, [1828])	0.38	25.9	151;263
1063	<i>M. hylata</i> (Ménétriés, 1832)	0.67	30.0	151
1064	<i>M. grami</i> Standfuss, 1892	0.55	26.0	151
1065	<i>M. titea</i> (Klug, 1832)	0.41	28.5	151;263
1066	<i>M. galathea</i> (Linnaeus, 1758)	0.55	25.9	60;64;151;233
1067	<i>M. lachesis</i> (Hübner, 1790)	0.69	28.5	151;257;262
1068	<i>M. arge</i> (Sulzer, 1776)	0.26	28.0	154;255
1069	<i>M. ines</i> (Hoffmannsegg, 1804)	0.65	25.1	173;262;304
1070	<i>M. occitanica</i> (Esper, 1793)	0.66	26.5	262;270
1071	<i>M. pherusa</i> (Boisduval, 1833)	0.70	27.0	286;304
1072	<i>Dira clytus</i> (Linnaeus, 1764)	0.38	29.0	61
1073	<i>D. oxylus</i> (Trimen, 1881)	0.52	34.5	61
1074	<i>D. swanepolei</i> (van Son, 1939)	0.70	35.0	61
1075	<i>D. jansei</i> (Swiestra, 1911)	0.58	31.3	61
1076	<i>Dingana dingana</i> (Trimen, 1873)	0.70	29.0	61
1077	<i>D. bowkeri</i> (Trimen, 1870)	0.35	23.5	61
1078	<i>Torynesis mintha</i> (Geyer, 1837)	0.90	26.5	61
1079	<i>Tarsocera cassus</i> (Linnaeus, 1764)	0.47	26.0	61
1080	<i>Anetia thirza</i> Geyer, [1833]	1.28	46.5	242
1081	<i>A. briarea</i> (Godart, [1819])	0.44	45.0	228
1082	<i>Idea hypermestra</i> (Westwood, 1848)	2.05	73.7	144
1083	<i>I. leuconoe</i> Erichson, 1834	1.94	61.0	168;295
1084	<i>Euploea sylvester</i> (Fabricius, 1793)	0.20	39.5	296
1085	<i>E. mulciber</i> (Cramer, [1777])	0.92	51.5	168;295
1086	<i>E. darchia</i> (Macleay, 1827)	0.13	34.0	289
1087	<i>E. crameri</i> Lucas, 1853	1.36	45.0	144
1088	<i>Amauris crawshayi</i> Butler, 1897	1.16	40.0	168
1089	<i>A. echeria</i> (Stoll, [1790])	1.36	39.5	61;168
1090	<i>A. albimaculata</i> (Butler, 1875)	0.79	34.6	61
1091	<i>A. ochlea</i> (Boisduval, 1847)	1.36	40.1	61
1092	<i>Ideopsis juvenata</i> (Cramer, [1777])	1.22	41.0	168
1093	<i>Parantica luzonensis</i> (Felder & Felder, 1863)	0.57	38.0	295
1094	<i>P. aspasia</i> (Fabricius, 1787)	0.99	41.5	168;295
1095	<i>P. vitrina</i> (Felder & Felder, 1861)	0.76	35.0	168;295
1096	<i>Tirumala petiverana</i> (Doubleday, [1847])	0.52	46.8	168
1097	<i>T. limniace</i> (Cramer, [1775])	0.63	48.0	168
1098	<i>T. hamata</i> (Macleay, 1827)	0.54	41.0	168
1099	<i>T. ishmoides</i> Moore, 1883	0.42	44.0	168
1100	<i>Danaus chrysipus</i> (Linnaeus, 1758)	0.48	40.0	61;168
1101	<i>D. gilippus</i> (Cramer, [1775])	0.53	33.5	168
1102	<i>D. erippus</i> (Cramer, [1775])	0.72	48.8	31;168
1103	<i>D. plexippus</i> (Linnaeus, 1758)	0.50	45.8	168
1104	<i>D. genutia</i> (Cramer, [1779])	0.51	43.0	168;272
1105	<i>D. melanippus</i> (Cramer, [1777])	0.55	41.5	168
1106	<i>D. philene</i> (Stoll, [1782])	0.39	39.8	168
1107	<i>Athesis clearista</i> Doubleday, 1847	0.79	38.0	247
1108	<i>Patricia deryllidas</i> (Hewitson, 1864)	0.53	35.0	247
1109	<i>Tithorea harmonia</i> (Cramer, [1777])	0.19	39.0	247
1110	<i>T. tarricina</i> Hewitson, 1853	0.80	41.0	247
1111	<i>Aeria eurimede</i> (Cramer, [1779])	0.51	24.0	124
1112	<i>A. olena</i> Weymer, 1875	0.18	23.5	247

1113	<i>Melinaea ethra</i> (Godart, [1819])	0.52	45.5	247
1114	<i>M. ludovica</i> (Stoll, [1780])	0.83	41.8	247
1115	<i>Athyrtis mechanitis</i> Felder, 1862	0.50	44.5	247
1116	<i>Eutresis hypereia</i> Doubleday & Hewitson, 1847	0.65	44.0	247
1117	<i>Paititia neglecta</i> (Müller, 1886)	1.07	34.5	247
1118	<i>Placidula euryassa</i> (Felder, 1860)	0.25	38.5	237
1119	<i>Methona themisto</i> (Hübner, [1818])	0.86	47.5	247
1120	<i>Thyridia psidii</i> (Linnaeus, 1758)	0.18	41.5	247
1121	<i>Scada karschina</i> (Herbst, 1792)	0.30	24.5	247
1122	<i>Sais rosalia</i> (Cramer, [1779])	0.23	29.5	247
1123	<i>Mechanitis lysimnia</i> (Fabricius, 1793)	0.35	37.5	31;247
1124	<i>Callithomia lenea</i> (Cramer, 1782)	0.26	32.0	247
1125	<i>Talamancana lonera</i> (Butler & Druce, 1872)	0.36	35.0	247
1126	<i>Velamysta pupilla</i> (Hewitson, 1874)	0.37	32.0	247
1127	<i>Ithomia ellara</i> (Hewitson, 1874)	0.31	33.0	247
1128	<i>I. drymo</i> Hübner, 1816	0.15	24.5	247
1129	<i>Miraleria cymothoe</i> (Hewitson, 1854)	0.24	28.5	247
1130	<i>Napeogenes harbona</i> (Hewitson, 1869)	0.48	29.5	247
1131	<i>Hyaliris frater</i> (Salvin, 1869)	0.47	29.5	247
1132	<i>H. oulita</i> (Hewitson, 1858)	0.55	31.5	247
1133	<i>Rhodussa cantobrica</i> (Hewitson, 1875)	0.18	26.5	247
1134	<i>Hypothyris euclea</i> (Godart, [1819])	0.23	30.8	247
1135	<i>H. leprieuri</i> Feisthamel, 1835 ²	0.23	27.0	247
1136	<i>H. ninonia</i> (Hübner, 1806)	0.27	28.5	247
1137	<i>H. semifulva</i> Salvin, 1869 ²	0.21	29.5	247
1138	<i>Epityches eupompe</i> (Geyer, 1832)	0.16	28.5	247
1139	<i>Oleria aquata</i> (Weymer, 1875)	0.22	23.0	247
1140	<i>O. astraea</i> (Cramer, [1775])	0.35	25.0	247
1141	<i>O. zelica</i> (Hewitson, 1856)	0.76	26.5	107
1142	<i>Hyposcada cyrene</i> (Latreille, 1811)	0.81	31.0	247
1143	<i>H. virginiana</i> (Hewitson, 1856)	0.77	31.5	247
1144	<i>Ollantaya canilla</i> (Hewitson, 1874)	0.82	32.5	247
1145	(?) <i>susiana</i> (Felder, 1862) ¹¹	0.78	37.0	247
1146	<i>Hyalenna pascua</i> (Schaus, 1902)	0.22	28.0	247
1147	<i>Dircenna dero</i> (Hübner, 1823)	0.15	36.5	247
1148	<i>D. relata</i> Butler & Druce, 1862	0.13	35.0	99
1149	<i>Pteronymia carlia</i> Schaus, 1902	0.12	22.5	247
1150	<i>P. pronuba</i> (Hewitson, 1870)	0.45	25.5	247
1151	<i>P. thabena</i> (Hewitson, 1869)	0.25	24.0	247
1152	<i>P. notilla</i> Butler & Druce, 1872	0.63	27.0	106
1153	<i>Episcada clausina</i> (Hewitson, 1876)	0.15	23.5	247
1154	<i>E. philoclea</i> (Hewitson, 1854)	0.14	23.5	247
1155	<i>Prittwitzia hymenaea</i> (Prittwitz, 1865)	0.11	23.5	247
1156	<i>Ceraticscada canaria</i> Brown & D'Almeida, 1970	0.18	23.5	84;247
1157	<i>Dygoris dircenna</i> (Felder, 1867)	0.16	35.5	247
1158	<i>Godyris dutilia</i> (Hewitson, 1852)	0.40	41.0	247
1159	<i>G. hewitsonii</i> (Haensch, 1903)	0.27	34.5	247
1160	<i>Hypoleria adasa</i> (Hewitson, 1854)	0.26	23.0	247
1161	<i>H. cassotis</i> (Bates, 1864)	0.13	25.5	118
1162	<i>Hypomenitis dercetis</i> (Doubleday & Hewitson, 1847)	0.28	28.0	247
1163	<i>Greta andromica</i> (Hewitson, 1854)	0.35	27.0	247
1164	<i>G. cyrcilla</i> (Hewitson, 1854)	0.34	31.5	247
1165	<i>G. diaphanus</i> (Drury, 1773)	0.15	26.0	276
1166	<i>G. nero</i> (Hewitson, 1854)	0.19	25.5	95
1167	<i>Pseudoscada erruca</i> (Hewitson, 1855)	0.21	24.0	247
1168	<i>P. quadrifasciata</i> Talbot, 1928	0.25	25.0	247
1169	<i>Mcclungia salomina</i> (Hewitson, 1855)	0.22	24.5	247

1170	<i>Heterosais edessa</i> (Hewitson, 1854)	0.19	30.0	247
1171	(?) <i>derama</i> (Haensch, 1905) ¹²	0.30	25.0	247
1172	<i>Brassolis isthmia</i> Bates, 1864	1.60	49.0	11;177
1173	<i>Caligo eurilochus</i> (Cramer, [1775])	3.88	89.5	67
1174	<i>C. mnemon</i> (Felder & Felder, 1866)	4.31	86.0	68
1175	<i>C. illioneus</i> (Cramer, [1775])	3.98	69.5	19
1176	<i>Dynastor darius</i> (Fabricius, 1775)	5.07	53.5	120;225
1177	<i>D. macrosiris</i> Doubleday, 1849	11.5	52.5	224
1178	<i>Eryphanis aesacus</i> (Herrich-Schäffer, 1850)	5.54	67.3	167
1179	<i>E. polyxena</i> (Meerburgh, 1775)	5.28	59.0	126
1180	<i>E. reevesi</i> (Doubleday & Westwood, 1849)	4.19	50.5	31
1181	<i>Opoptera sulcius</i> (Staudinger, 1887)	1.39	38.0	38
1182	<i>Opsiphanes cassina</i> Felder, 1862	4.04	39.0	66;110
1183	<i>O. quiteria</i> (Stoll, [1780])	1.65	54.9	167
1184	<i>O. tamarindi</i> (Felder, 1861)	4.00	47.9	68;110

TAXONOMIC ARRANGEMENT. The high level taxa were arranged after De Jong et al. (1996). Other relevant references are given in the notes 14 to 23 below. A detailed arrangement of the species is given in the Appendix. This was constructed after varied sources, phylogenetic approaches having been given priority. The families and subfamilies included in the Table are as follows (for each taxon, the first and last species numbers are given):

Hesperiidae ¹⁴	1-132
Coeliadinae	1-3
Hesperiinae	4-67
Trapezitinae	68-95
Pyrginae	96-132
Papilionidae ¹⁵	133-227
Parnassiinae	133-166
Papilioninae	167-227
Pieridae	228-311
Dismorphiinae	228-231
Pierinae	232-290
Coliadinae	291-311
Lycaenidae ¹⁶	312-609
Riodininae ¹⁷	312-343
Poritinae	344-349
Miletinae	350-360
Curetinae	361
Lycaeninae	362-609
Nymphalidae ¹⁸	610-1184
Libytheinae	610-612
Heliconiinae ¹⁹	613-717
Nymphalinae	718-775
Limenitinae	776-815
Charaxinae	816-877
Apaturinae	878-884
Morphinae	885-900

Satyrinae ²⁰	901–1079
Danainae ²¹	1080–1106
Ithomiinae ²²	1107–1171
Brassolinae ²³	1172–1184

NOTES 1–23 to the Table and the taxonomic arrangement.

¹No reference was found to reliably quote the author of the species name.

²No reliable information was found on the date of description of the species or the genus where the species was originally described.

³According to Clark & Dickson (1971), a species formerly confused with *A. taikosama* (Wallengren), of which I have been unable to establish the correct identity.

⁴After some authors, a subspecies of *Callophrys (Mitoura) gryneus* (Hübner, 1819).

⁵As *E. minyas* in the original reference (see Fiedler 1991).

⁶Clark & Dickson (1971) refer to *Anthene sp.*, close to *A. talboti* Stempffer, but I have been unable to secure the correct identity of the species.

⁷According to Emmel & Emmel (1989) this record might be ascribed to *Euphilotes mojave* (Watson & Comstock).

⁸As 'forms' of *H. sapho* (Drury) in D'Abrera (1984).

⁹Following Friedlander (1988), probably better as a subspecies of *A. clyton* (Boisduval & Le Conte).

¹⁰*P. fra*, sin.: *P. phegea* (e.g., Hesselbarth et al. 1995).

¹¹Proposed for a new genus by Brown et al. (1994), I have not traced further references.

¹²Proposed for a new genus by Brown et al. (1994), formerly in *Pteronymia*.

¹³References 94, 128, and 182, give estimates of the egg volumes based in their own estimates or former references.

¹⁴=*Hesperioidea auct.*, arrangement following Bridges (1994)

¹⁵Arrangement after Miller (1988), other references in Collins & Morris (1985).

¹⁶Following De Jong et al. (1996) for the relationships among subfamilies, and Fiedler (1991) for other details.

¹⁷Based in the provisional consensus provided by De Vries (1997).

¹⁸After De Jong et al. (1996) up to subfamilies, and other details after Harvey (1991) unless otherwise stated.

¹⁹Arrangement based in a strict consensus of the results of Brown (1981) and Brower (1997).

²⁰Taxonomy simplified from Miller (1968) (see Harvey 1991).

²¹Relationships between species are a consensus based on Acery & Vane-Wright (1984), Kitching (1985), Vane-Wright et al. (1992), and Sourakov & Emmel (1996).

²²Relationships among species after Brown et al. (1994).

²³Brassolinae was kept independent from Morphinae.

SOURCES. Numbers 1 to 304 correspond to those quoted in the data table: 1-Scudder 1873; 2-Scudder 1889; 3-Dyar 1897; 4-Gillmer 1904; 5-Chapman 1905; 6-Powell 1905a; 7-Powell 1905b; 8-Rebel 1910; 9-Bower 1911; 10-Oberthür 1914; 11-Dunn 1917; 12-Coolidge 1923a; 13-Coolidge 1923b; 14-Coolidge 1923c; 15-Coolidge 1923d; 16-Coolidge 1924a; 17-Coolidge 1924b; 18-Coolidge 1924c; 19-Cleare 1926; 20-Hayward 1926; 21-Hayward 1926; 22-Hayward 1926; 23-Van Someren & Van Someren 1926; 24-Comstock 1927; 25-Stubenrauch 1929; 26-Hayward 1931; 27-Comstock & Dammers 1932; 28-Comstock & Dammers 1932; 29-Comstock & Dammers 1932; 30-Le Moul 1932; 31-Hoffmann 1933; 32-Lichy 1933; 33-Dos Passos 1936; 34-Dos Passos 1936; 35-Dethier 1938; 36-Djou 1938; 37-Hoffman et al. 1938; 38-Hoffmann 1938; 39-Tsang 1938; 40-Dethier 1939; 41-Dethier 1939; 42-Comstock 1940; 43-Dethier 1940; 44-Dethier 1941; 45-Dethier 1942; 46-Dethier 1942; 47-Dethier 1942; 48-Dethier 1943; 49-Dethier 1944; 50-Bourquin 1948; 51-Bourquin 1949; 52-Dickson 1949; 53-Sarlet 1949-1957; 54-Beebe 1952; 55-Urbahn 1952; 56-Bourquin 1953; 57-Comstock 1953; 58-Zikan 1953; 59-De Lesse 1954; 60-Döring 1955; 61-Van Son 1955; 62-Jarvis 1956; 63-Clark & Dickson 1957; 64-Beebe et al. 1960; 65-Comstock 1961; 66-Comstock & Vazquez 1961; 67-Malo & Willis 1961; 68-Harrison 1963; 69-Niculescu 1963; 70-Van Son 1963; 71-Emmel & Emmel 1964; 72-Hayward 1964; 73-Ross 1964a; 74-Ross 1964b; 75-Ross 1964c; 76-Clark & Dickson 1965; 77-Cottrell 1965; 78-Lawrence & Downey 1966; 79-Templado 1966; 80-Clark & Dickson 1967; 81-Hayward 1967; 82-Emmel & Emmel 1968; 83-Heitzman & Heitzman 1969; 84-Brown & d'Almeida 1970; 85-Clark & Dickson 1971; 86-Rydon 1971; 87-Straatman 1971; 88-Bodi 1972; 89-Dujardin 1972; 90-Emmel & Mattoon 1972; 91-Mcalpine 1972; 92-Quick 1972; 93-Young 1972a; 94-Young 1972b; 95-Young 1972c; 96-Young 1972d; 97-Atkins 1973; 98-Muyshondt 1973; 99-Young 1973a; 100-Young 1973b; 101-Young 1973c; 102-Young 1973d; 103-Emmel & Emmel 1974; 104-Muyshondt 1974; 105-Shirozu & Hara 1974; 106-Young 1974a; 107-Young 1974b; 108-Atkins 1975; 109-Straatman 1975; 110-Young & Muyshondt 1975; 111-De la Maza & De la Maza 1976; 112-Martin 1976; 113-Muyshondt 1976; 114-Atkins & Miller 1977; 115-Henning 1977; 116-Lambkin & Lambkin 1977; 117-Schurian 1977; 118-Young 1977a; 119-Young 1977b; 120-Aiello & Silberglied 1978; 121-Atkins 1978; 122-Pennington 1978; 123-Roos 1978; 124-Young 1978; 125-Dias 1979; 126-Dias 1979; 127-Downey & Allyn 1979; 128-Dunlap-Pianka 1979; 129-Henning 1979; 130-Silberglied et al. 1979; 131-Van Son 1979; 132-Aiello 1980; 133-Aussem 1980; 134-Aussem & Hesselbarth 1980; 135-Dias 1980; 136-Downey & Allyn 1980; 137-Roos 1980; 138-Roos & Arnscheid 1980; 139-Yata & Fukuda 1980; 140-Brown 1981; 141-Downey & Allyn 1981; 142-Roos & Arnscheid 1981; 143-Henning 1982; 144-Kirton et al. 1982; 145-Roos et al. 1982; 146-Arnscheid & Roos 1983; 147-Fukuda 1983; 148-Hesselbarth 1983; 149-Johnson & Valentine 1983; 150-Oehmig 1983; 151-Wagener 1983; 152-Atkins 1984; 153-Downey & Allyn 1984; 154-Eitschberger & Racheli 1984; 155-Furtado 1984; 156-Heath et al. 1984; 157-Martín & Templado 1984; 158-Nakasuji & Kimura 1984; 159-Parsons 1984; 160-Roos et al. 1984; 161-Sands

et al. 1984; 162-Wood 1984; 163-Wright 1984; 164-Young 1984; 165-Arnscheid & Roos 1985; 166-Casagrande & Mielke 1985; 167-Cubero 1985; 168-Kitching 1985; 169-Boillat 1986; 170-Boudinot 1986; 171-Callaghan 1986; 172-Eitschberger & Ströhle 1986; 173-Eitschberger et al. 1986; 174-Friedlander 1986; 175-Huertas 1986; 176-Roos 1986; 177-Young 1986; 178-Atkins 1987; 179-Atkins & Heinrich 1987; 180-Atkins & Miller 1987; 181-Benz et al. 1987; 182-Nakasuji 1987; 183-Roos 1987; 184-Shapiro 1987; 185-Wood 1987; 186-Atkins 1988; 187-Friedlander 1988; 188-Graham 1988; 189-Munguira 1988; 190-Wood 1988; 191-Benjamini 1989; 192-Boillat 1989; 193-Boudinot 1989; 194-Callaghan 1989; 195-Henning 1989; 196-Johnson & Valentine 1989; 197-Marini & Trentini 1989; 198-Roos & Arnscheid 1989; 199-Samson 1989; 200-Valentine & Johnson 1989; 201-Back 1990; 202-Braby 1990; 203-Eitschberger 1990; 204-Eitschberger 1990; 205-Eitschberger 1990; 206-Eitschberger 1990; 207-Eitschberger & Ströhle 1990; 208-Eitschberger & Ströhle 1990; 209-Emmel & Emmel 1990; 210-Emmel & Garraway 1990; 211-Goyle 1990; 212-Köppel 1990; 213-Urich & Emmel 1990; 214-Urich & Emmel 1990; 215-Ziegler & Jost 1990; 216-Callaghan 1991; 217-García-Barros & Martín 1991; 218-Hara 1991; 219-Johnson & Doherty 1991; 220-Samson 1991; 221-Sarto & Masó 1991; 222-Turner 1991; 223-Urich & Emmel 1991; 224-Urich & Emmel 1991; 225-Urich & Emmel 1991; 226-Wiemers 1991; 227-Brevignon 1992; 228-Brower et al. 1992; 229-Freitas & Oliveira 1992; 230-Thomson 1992; 231-Williams et al. 1992; 232-Braby 1993; 233-Dennis 1993; 234-Eitschberger 1993; 235-Eitschberger 1993; 236-Fiedler 1993a; 237-Freitas 1993; 238-Garraway et al. 1993; 239-Häuser et al. 1993; 240-Henning et al. 1993; 241-Leestmans & Carbonell 1993; 242-Llorente-Bousquets et al. 1993; 243-Merrett 1993; 244-Atkins 1994; 245-Braby 1994; 246-Braby & Woodger 1994; 247-Brown & Freitas 1994; 248-Caldas 1994; 249-Freina 1994; 250-Hsu & Lin 1994; 251-Johnson et al. 1994; 252-Jutzeler 1994a; 253-Jutzeler 1994b; 254-Jutzeler 1994c; 255-Jutzeler 1994d; 256-Jutzeler & Leestmans 1994a; 257-Jutzeler & Leestmans 1994b; 258-Otero 1994; 259-Pringle et al. 1994; 260-Smith et al. 1994; 261-Dantchenko et al. 199; 262-García-Barros & Martín 1995; 263-Hesselbarth et al. 1995; 264-Hirukawa & Kobayashi 1995; 265-Johnson et al. 199; 266-Jutzeler 1995a; 267-Jutzeler 1995b; 268-Jutzeler, Grillo & De Bros 1995; 269-Jutzeler, Pitzalis & De Bros 1995; 270-Jutzeler et al. 1995a; 271-Jutzeler et al. 1995b; 272-Meyer 1995; 273-Penz 1995; 274-Samson & Wilson 1995; 275-Sourakov 1995; 276-Sourakov & Emmel 1995; 277-Yen & Jean 1995a; 278-Yen & Jean 1995b; 279-Zanuncio et al. 1995; 280-Atkins 1996; 281-Caballero 1996; 282-Dantchenko et al. 1996; 283-Jutzeler 1996; 284-Jutzeler & De Bros 1996; 285-Jutzeler, Biermann & De Bros 1996; 286-Jutzeler et al. 1996; 287-Merrett 1996; 288-Meyer 1996a; 289-Meyer 1996b; 290-Parsons 1996; 291-Sourakov 1996; 292-Williams & Atkins 1996; 293-Atkins 1997; 294-Callaghan 1997; 295-Igarashi & Fukuda 1997; 296-Meyer 1997a; 297-Meyer 1997b; 298-Sourakov & Emmel 1997; 299-Teshirogi 1997; 300-Williams & Atkins 1997; 301-Leigheb & Cameron-Curry 1998; 302-M.L. Munguira, unpublished data on Spanish Lycaenidae; 303-F. Urich, unpublished; 304-E. García-Barros, unpublished.

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APPENDIX. Relationships among the species included in the data set (see 'Sources' for the main references), in parenthetical notation.

(((((1,2),3),((4,(5,6,7),(8,9),(10,(11,12),13,14),(15,16,(17,18))),19,(20,21,22,23,24),25,(26,27,28),(29,30,31,32),33),34,(35,36),(37,38,39),(40,41,42),(43,44),((45,(46,47),(48,49),50,(51,52,53,54),55,(56,57))),58,59,(60,61,62,63,64))),((65,66),67)),(68,(69,70,71,72,73),74,(75,76,77,78),79,80,((81,82,83,84,85),86,(87,88),89),((90,91),(92,93),94,95))),((96,97,98,99,100),(101,(102,103,104,105)),(106,107,108,109,110,(111,112,113,114),(115,116,117,118,119,120,121),122),((123,124),125),(126,127,128,129,130,(131,132))))),(((133,134,(135,(136,137),138,(139,140),141,142,(143,144),145,(146,147,148,149,150),(151,152,153,154,155,156,157,158))),159,160,(161,162),163,(164,165,166))),((167,168,169),(170,171),(172,173),(174,175),(176,177,178,179,180))),((181,(182,(((183,184,185,186,187,188),189),(190,191)),(192,193,194,195),(196,197,198,199,200)),(201,202))),((203,204),(205,206),(207,208),209,210,211))),((212,213,214),215,(216,(217,(218,(219,220))))),221,222,223,(224,225),226,227))),((228,229,230),231),(((232,233,234,235,236,237,238,239),240),241,242,(243,244),245),(246,247),(248,249,250,251,252,253),254),(255,256,(257,258,259),(260,261)),262,263,(264,265),266,267,(268,269,270),271,(272,273),(274,275),(276,277,278)),((279,280,281),(282,283),284),285,(286,287,288,289),290),291,(292,293,294),(295,296,297,298,299,300),(301,302,303,304,305,306),(307,308),309,310,311))),(((312,313),(314,315),((316,317),318),(319,320,321,322),323,324,325,326),(327,328,329,330),(331,332,333,334,335)),(336,337),(338,339),(340,341),342,343),(((344,345,346),(347,348),349),((350,351),(352,353,354,355,356,357,358,359),360),361),((362,363,364,365,366,367,368,369,370),371,372,373,374,375,376,(377,378),(379,380,381,382,383,384,385,386,387,388,389),(390,391,392),(393,394),395),((396,397,398,399,400,401,402,403,404,405,406),407),((408,409,410,411),(412,(413,414,415))),((416,417,418,419,(420,421),422,423),(424,(425,426,427,428,429),430,(431,432),(433,434),435,(436,437,438),(439,440,441,442,443,444,445)),(446,447,(448,449)),450),((451,452),453,(454,(455,456,457,458,459),460),461,(462,(463,464))),((465,466),(467,468,469),470),471,472),((473,474),(475,476),477),478,((479,480,481),(482,483,484)),(485,486,487)),((488,489),(490,491,492,493,494,495,496,497),((498,499),500,501,(502,503)),(504,505,506,507,508),509,510,(511,512),(513,514,515),((516,517),(518,519)),520,(521,522),(523,524),525,(526,527),(528,529),(530,531,532,533),(534,535)),(536,537,538,539),(540,541),((542,543),544,545,546),((547,548,549,550,551),552,(553,554,555,556,557,558)),(559,560,561,562),(563,564),565,566,567),((568,569,570,571,572),(573,574,575,576,577,578,579,580,581,582),583,(584,585)),((586,587),588,(589,590,591),(592,593,594,595),596,(597,(598,599,600,601),(602,603,604),605,606),607,608),609))),((610,611),612),(((613,(614,615)),(616,(617,(618,(619,(620,621))))),622,((623,624,625),(626,627,628,629,630,631)),((632,633,634),(635,(636,(637,638),(639,640),(641,(642,643),644,645,646,647,(648,649,650,651),(652,653),654,655),(656,657,658,(659,660),(661,662),(663,664),665,666,(667,(668,669),670)))))))))((671,672,(673,674,675,676),(677,678,679),680,681,682,(683,684,685,686,687,688,689)),(690,691),(692,693,694),695,696,(697,698)),((699,700,701),(702,703,704),(705,(706,707),708),(709,(710,711),((712,713),(714,(715,716))))))717,((718,719,720,721,(722,723,724),(725,726,727,728,729),730,(731,732)),733,(734,735,736,737),(738,739,740,741,742,743),(744,745,746,747,748,749),(750,751),752,753,(754,755,756),((757,758),759,760),(761,(762,763),(764,765,766,767,768),(769,770,771)),772,(773,774),775),((776,(777,778),779),((780,781,(782,783,784),(785,(786,787),(788,789)),790),((791,792,793),794,(795,796,797,798,799),(800,801)),(802,803),(804,805,806),(807,808,809,810,811,812,813),(814,815)),(816,(817,818),(819,820),(821,(822,(((823,824,825),826,827,828,829,830,831),(832,833,834,835,836,837)),(838,839),(840,(841,842),(843,844),(845,846,847,848,849,850,851,852,853,854,855,856,857,858,859,860,861,862,863,864,865)))))))))866,((867,868),869,870,871),(872,873),(874,

875),876),877),(878,((879,880),(881,882),883)),884),(((885,886,887,888,889),890),(891,(892,893),(894,895,896),897,(898,899,900))),901),((902,903),904),((905,(906,907,908),(909,910,911,912,913,914,915),916,917,(918,919,920),(921,922),923,924),925,(926,927,928,929)),((930,931),(932,933,934,935,936,937),938,939),(940,941),(((942,943),944),(945,946,947,948),(949,950),(951,952),953,954,955,(956,957),(958,959,960,961,962),(963,964,965)),(966,967,968),(969,(970,971,972,973,974,975),(976,977,978,979,980,981,982)),983,(984,985),(986,987,988),(989,990),(991,992,993)),994),((995,996,997,998),999,(1000,1001),1002,(1003,1004,1005,1006,1007,1008),(1009,1010),(1011,1012,1013,1014,1015,1016),1017,(1018,1019))),1020,1021,1022,1023,1024,1025),(1026,1027,1028),((1029,1030,1031),((1032,1033),(1034,1035,1036,1037))),((1038,1039),(1040,1041,1042,1043,1044),((1045,1046,1047,1048),(1049,1050,1051),((1052,1053),1054))),((1055,1056,1057),(1058,1059))),((1060,1061),((1062,1063,1064,1065),(1066,1067)),1068,(1069,(1070,1071))),((1072,1073,1074,1075),(1076,1077),1078,1079)),((1080,1081),(1082,1083),(1084,(1085,1086)),1087),((1088,(1089,(1090,1091))),1092,(1093,(1094,1095))),((1096,1097,1098,1099),((1100,1101),(1102,1103),(1104,1105,1106))),((1107,1108),((1109,1110),(1111,1112),((1113,1114),(1115,(1116,1117)),(1118,1119),(1120,(1121,(1122,1123))))),((1124,1125,1126,(((1127,1128),1129),1130),((1131,1132),(1133,(1134,1135,1136,1137))),1138),((1139,1140,1141),(1142,1143),1144,1145))),((1146,(1147,1148),(1149,1150,1151,1152)),((1153,1154,1155),1156),(1157,(1158,1159),(1160,1161),1162,(1163,1164,1165,1166),(1167,1168),1169,1170,1171)))))))))((1172,(1173,1174,1175),(1176,1177),(1178,1179,1180),1181,(1182,1183,1184)))))))))

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